

R E P O R T R E S U M E S

ED 002 897

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THE ORGANIZATIONAL CLIMATE OF SCHOOLS.

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REPORT NUMBER CRP-543

PUB DATE JUL 62

UTAH UNIV., SALT LAKE CITY

CONTRACT OEC-SAE-543-8639

EDRS PRICE MF-\$0.36 HC-\$7.96 199P.

DESCRIPTORS- *SCHOOL ORGANIZATION, ELEMENTARY SCHOOLS, *ORGANIZATIONS (GROUPS), *FACULTY EVALUATION, GROUP STRUCTURE, GROUP TESTS, PRINCIPALS, SCHOOL ADMINISTRATION, SCHOOL ORIENTATION, REGIONAL PROGRAMS, *QUESTIONNAIRES, *BEHAVIORAL SCIENCE RESEARCH, SALT LAKE CITY, UTAH, ST. LOUIS, MISSOURI

A COMPREHENSIVE QUESTIONNAIRE WAS DEVELOPED, ANALYZED, AND TESTED TO BE USED FOR PORTRAYING THE "ORGANIZATIONAL CLIMATE" OF AN ELEMENTARY SCHOOL. IT WAS STATED FIGURATIVELY THAT PERSONALITY IS TO THE INDIVIDUAL AS "CLIMATE" IS TO THE ORGANIZATION. OVER 70 ELEMENTARY SCHOOLS WERE CHOSEN FROM VARIOUS REGIONS OF THE UNITED STATES TO REPRESENT THE PROJECT SAMPLE. THE QUESTIONNAIRE WAS ADMINISTERED TO THE FACULTY OF EACH SCHOOL IN 30-MINUTE GROUP SESSIONS. QUESTIONNAIRE ITEMS WERE ASSIGNED TO EIGHT SUBJECTS WHICH WERE DELINEATED BY FACTOR-ANALYTIC METHODS. THE FIRST FOUR PERTAINED PRIMARILY TO THE CHARACTERISTICS OF THE FACULTY GROUPS--(1) DISENGAGEMENT, (2) HINDRANCE, (3) ESPRIT, AND (4) INTIMACY. THE OTHER FOUR CHARACTERIZED THE SCHOOL PRINCIPALS AS LEADERS--(1) ALOOFNESS, (2) PRODUCTION EMPHASIS, (3) THRUST, AND (4) CONSIDERATION. THE RESULTS OF THE QUESTIONNAIRE WERE ANALYZED, AND IT WAS FOUND THAT SIX SPECIFIC ORGANIZATIONAL CLIMATES COULD BE IDENTIFIED, RANKED ON A CONTINUUM DEFINED AT ONE END AS OPEN, AT THE OTHER, AS CLOSED. THE SUBJECT SCHOOLS WERE CLASSIFIED WITHIN THE SIX CLIMATES BECAUSE THE PROJECT WAS A FEASIBILITY STUDY BY NATURE, IMPLICATIONS WERE PROVIDED AND NINE TYPES OF ADDITIONAL RESEARCH STUDIES WERE PROPOSED TO SUBSTANTIATE THOROUGHLY THE USE OF THIS QUESTIONNAIRE TECHNIQUE WITHIN THE REALM OF BEHAVIORAL SCIENCE. (JH)

ED002897

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THE ORGANIZATIONAL CLIMATE OF SCHOOLS

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The research reported herein was performed pursuant to a contract with the United States Office of Education, Department of Health, Education, and Welfare

July 1962

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FOREWORD

The findings reported here are based upon the first phase of a long-range research proposal submitted to the Cooperative Research Branch of the U. S. Office of Education. This first phase was conceived as a feasibility study; our purpose was to determine whether a preliminary exploration of a few ideas that we had for describing and differentiating the Organizational Climates of schools would yield findings sufficiently encouraging to warrant further and broader research on this topic. We believe that the present findings, tentative as they may be, show that we have struck rich ore. But since every parent is infatuated with his own brain-children, our judgment must be subjected to the trial of reality-testing which can be provided only through the feedback which we will receive from colleagues whose own research is in this same general area.

The phenomenon of serendipity is not uncommon in research. In every research endeavor the investigators try, as best they can, to incorporate into the original design as many pieces of the jigsaw puzzle as they think will be relevant. But sometimes they discover, during the course of the study, that a key piece seems to be missing. Ironically enough, the identification of the missing piece often turns out to be as important as the actual substantive findings of the research. Such was the case in the present instance. While we were preoccupied in analyzing the data, serendipity sneaked in through the window, unnoticed. Accordingly, the most significant outcome of the present study is the insight which we have gained on how the course which we had plotted originally should be modified when we, and others, direct fresh efforts to the further

analysis of the Organizational Climate of schools. In starkly practical terms, our experience in this respect is important for both the design and the financial support of research endeavors in the behavioral sciences. Specifically, our experience re-emphasizes the value of preliminary, feasibility studies, and at the same time, suggests why it is imperative that the contractual agreement between research investigators and the supporting agencies should provide enough flexibility to allow the investigators to modify their course in midstream. For this reason we are pleased to note that even during this preliminary, feasibility study, the Cooperative Research Branch has been especially gracious in giving us the flexibility which we have needed.

A.W.H.

D.B.C.

ACKNOWLEDGMENTS

Our first indebtedness, of course, is to the approximately 1500 teachers and principals who gave us our primary data by answering the Organizational Climate Description Questionnaire, and thus describing their respective schools. The collection of the data in Utah was facilitated by the willing cooperation of four school superintendents: Dr. M. Lynn Bennion, Salt Lake City Schools; Mr. Elmer Hartvigsen, Granite School District; Dr. Terrell H. Bell, Utah State University (formerly superintendent of the Weber County School District); and Dr. J. C. Moffitt, Provo Public Schools. To secure data from schools in other states, we relied upon the great help we received from: Dr. Orin B. Graff, University of Tennessee, and Dr. Robert B. Smawley, Eastern Washington State College (formerly at the University of Tennessee); Dr. H. Thomas James, Stanford University; Dr. James E. Lipham and Dr. John Vodacek, University of Wisconsin; Dr. Don McCarty, Cornell University; and Dr. Lloyd McCleary, University of Illinois.

During the initial period of conceptualizing our approach to the research task, of constructing the questionnaire, and of collecting data from the Utah schools, our former colleagues on the project, Mrs. Marcella M. Miller, San Marino High School, San Marino, California; Mr. Ronald E. Wasden, Utah Employment Security Office, Salt Lake City; and Alan J. Dayley, Dean of Men, Weber College, Ogden, Utah, gave us their especially insightful support. During the final stage of preparing this report, Mrs. Miller and Mr. Wasden--even though they no longer were members of the project--helped us again by criticizing the manuscript.

It would have been impossible to analyze the data without the generous assistance we received from the personnel at the Western Data Processing Center, Los Angeles, and at the University of Utah's Computer Center. In particular, we are indebted to William P. Anderson, Daniel Morris and Sig Knisley at the Western Data Processing Center, and to Paul Tuan, D. Edwin Dallin and Joseph Rice at the Utah Computer Center. We want to express special appreciation to Mr. D. Edwin Dallin, who is blessed with uncanny skill in writing computing programs.

Dr. Oakley Gordon and Dr. J. M. Richards, both of the Department of Psychology, University of Utah, served as consultants in analyzing the data. Dr. Gordon and Dr. Asahel D. Woodruff, Dean of the College of Education at the University of Utah, shared with us their expert judgment in criticizing the manuscript. Naturally the responsibility for whatever blunders we may have committed is all our own.

To two of our colleagues in particular, we owe a debt of gratitude that simply cannot be conveyed by a mere formal acknowledgment. Miss Andrea Foote, of the University of Utah, who has worked with us as a manuscript editor during the past few months, has given us more than her editing skill; she has shared with us the gift of her startling intelligence and the special kind of insight that only a woman can possess.

Finally, we express our deepest appreciation to our project secretary, Mrs. Laraine Gordon, who invented her own special Rosetta stone in order to work her way through the various stages of the manuscript. Her utter competence, her graciousness, and her stamina in "putting up with the likes of us" continue to amaze us.

A.W.H.

D.B.C.

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1. INTRODUCTION

The plot of the present study is astonishingly simple. We have constructed an Organizational Climate Description Questionnaire (OCDQ) that permits us to portray the "Organizational Climate"¹ of an elementary school. The Organizational Climate can be construed as the organizational "personality" of a school; figuratively, "personality" is to the individual what "climate" is to the organization.

The OCDQ can be given in a group situation; it requires no more than thirty minutes for administration. The questionnaire² is of intrinsic interest to the faculty, and the findings from it can be used for purposes of faculty self-evaluation. The scores which we have devised for describing the climate make good "factorial" sense. But more than this, they make practical sense and are consistent, too, with present theoretical knowledge about the nature of organizations.

We have analyzed the climate of 71 elementary schools chosen from six different regions of the United States. The climate of each school has been described by the teachers and the principal on a set of Likert-type items. Our analysis is based upon the description of these schools given by 1151 respondents. The 64 items in the OCDQ have been assigned to eight subtests which we delineated by factor-analytic methods. Four of these

¹We did not originate the term, "Organizational Climate." See, for example, Chris Argyris, "Some Problems in Conceptualizing Organizational Climate: A Case Study of a Bank," Administrative Science Quarterly, 11, No. 4 (March 1958), 501-520.

²The questionnaire is presented in the format of a set of IBM mark-sensing cards; the responses to the questions can be scored quickly by machine.

subtests pertain primarily to characteristics of the faculty group qua group, the other four to characteristics of the principal as a leader. From the scores on these eight subtests we have then constructed, for each school, a profile which depicts the school's Organizational Climate. By comparing the profiles of different schools we can spot the distinguishing features of their respective Organizational Climates. Furthermore, by analyzing the profile for any given school we can make an estimate of the quality of its climate.

The "operational" meaning³ of the eight subtest-scores will be discussed later in this report. Just to provide a "feel" for the terrain that we intend to explore, let us now simply name, without defining, the eight subtests:

Characteristics of the Group

1. Disengagement
2. Hindrance
3. Esprit
4. Intimacy

Behavior of the Leader

5. Aloofness
6. Production Emphasis
7. Thrust
8. Consideration

We examined the profiles for the 71 schools to determine whether the profiles themselves would constellate in a fashion that would allow us to

³Here we refer to the meaning of the subtests in terms of "Operational definitions." See Percy W. Bridgman, The Logic of Modern Physics, Ch. 1 (New York: Macmillan, 1927).

differentiate meaningful types of Organizational Climates. They did. We were able to identify six Organizational Climates, and found that these could be ranked on a continuum defined at one end as Open, at the other, as Closed.⁴ Three of the six climates reflect different degrees of Openness; three expose different degrees of Closedness.⁵ The continuum which we have devised does not possess porcelain perfection; it has a few chips and nicks along the edges. No matter. The criticisms of other investigators will goad us into smoothing the edges.

In Figure 1 we have compared the most Open Organizational Climate with the one that is most Closed. By our definition the Open climate is the most desirable. Yet the most Open of the six climates is enjoyed by only 17 of the 71 schools represented in the present sample.

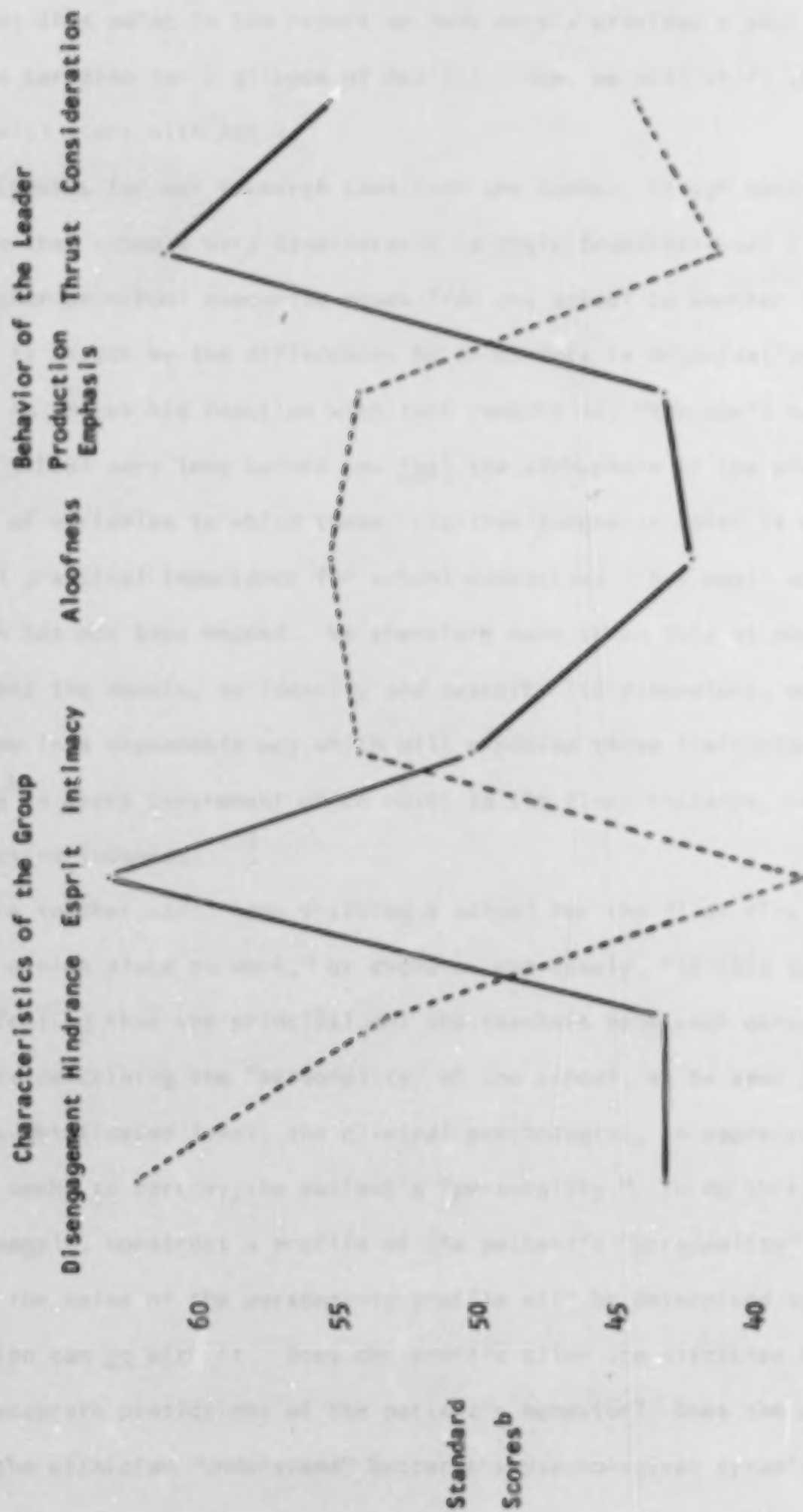
Let this brief comment on the continuum of Organizational Climates suffice for now; the rationale of our procedure for describing Organizational Climates will become clearer as we progress through this report.

⁴In naming the ends of the continuum in this way we were influenced by Rokeach's concepts. See Milton Rokeach, The Open and the Closed Mind (New York: Basic Books, 1961). Several pairs of names had suggested themselves to us as appropriate for describing this continuum. One pair was Alive vs. Dead. We liked this description but abandoned it with regret only because we feared that many colleagues might accuse us of dealing with a dead issue. The Closed climate is characterized by a high degree of functional rigidity, in the sense that Lewin has used this concept. See Kurt Lewin, "A Dynamic Theory of the Feeble-minded," pp.194-238, in A Dynamic Theory of Personality (New York: McGraw-Hill, 1935). Indeed, Lewin's explanation of the dynamic differences between intelligent children and those who are feeble-minded is strikingly applicable to the differences between Open and Closed climates.

⁵Naturally, in order to rank the profiles we first have had to classify each of the 71 schools according to the climate-profile which it most closely approximates. To eliminate what otherwise would be a burdensome clerical task, we have worked out a computer "program" for sorting the profiles.

Figure 1

COMPARISON OF AN OPEN^a AND A CLOSED ORGANIZATIONAL CLIMATE ON THE
EIGHT SUBTESTS OF THE ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE (FORM IV)



^aThe Open Climate is represented by the solid line; the Closed Climate, by the dotted line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

In short, at this point in the report we have merely provided a peek through the curtains for a glimpse of Act III. Now, we will shift the scene and will start with Act I.

The impetus for our research came from the common, though obvious observation that schools vary considerably in their Organizational Climates. As any teacher or school executive moves from one school to another he inexorably is struck by the differences he encounters in Organizational Climates. He voices his reaction with such remarks as, "You don't have to be in a school very long before you feel the atmosphere of the place." The domain of variables to which these intuitive judgments refer is of exceptional practical importance for school executives. But until now this domain has not been mapped. We therefore have taken this as our task: to map the domain, to identify and describe its dimensions, and to measure them in a dependable way which will minimize those limitations that inhere in every instrument which must, in the final instance, rely upon subjective judgment.

When a teacher says, upon visiting a school for the first time, "This feels like a nice place to work," or declares conversely, "In this school I get the feeling that the principal and the teachers hate each other's guts," he is describing the "personality" of the school, as he sees it. At a more sophisticated level, the clinical psychologist, in appraising a patient, seeks to portray the patient's "personality." To do this, he may, for example, construct a profile of the patient's "personality" scores. Obviously, the value of the personality profile will be determined by what the clinician can do with it. Does the profile allow the clinician to make more accurate predictions of the patient's behavior? Does the profile help the clinician "understand" better the psychological dynamics of

the patient which "cause" him to act as he does? The techniques which psychologists have used to profile the "personality" of an individual have undergone many changes in the past forty years. For example, simple phenotypic classifications of human personality made in terms of such attributes, for example, as extroversion versus introversion or dominance versus submission, have been found to possess less predictive usefulness than the more dynamically-oriented and genotypic classifications provided by projective techniques such as the Rorschach Ink-Blot Test and the Thematic Apperception Test. Indeed, progress in the mapping of any domain--and especially of domains in the biological and behavioral sciences--is strongly characterized by a transition from phenotypic to genotypic emphases in dimensionalizing the domain.⁶

In like manner, we have devised a way of constructing a profile of "Organizational Climate" scores for each of the elementary schools which we have studied. In seeking to dimensionalize the domain of Organizational Climates we have sought to abjure the more phenotypic bases of pertinence⁷ in favor of those which we hope will prove more genotypic, and hence will be more useful for predicting the consequences which will ensue from those Organizational Climates that we have identified. Furthermore, we have secured data from enough schools--and from schools in different parts of

⁶The issue of phenotypic versus genotypic classifications is pivoted upon the difference between the Aristotelian and the Galileian modes of thought. See, Kurt Lewin, "The Conflict Between Aristotelian and Galileian Modes of Thought in Contemporary Psychology," A Dynamic Theory of Personality. (New York: McGraw-Hill, 1935).

⁷The concept of "the basis of pertinence," as we have used it in this report, is drawn directly from the work of Mary Marjorie Bolles, "The Basis of Pertinence: A Study of the Test Performance of Aments, Dements and Normal Children of the Same Mental Age," (New York: Columbia University, Archives of Psychology, No. 212, June, 1937).

the country--to allow us to describe the "climate" of any school in terms of a set of standard scores.⁸

When we say that we are studying the Organizational Climate of schools, the typical response we receive is, "Oh, you mean the 'morale' of the school? Is this what you're working with?" To which we can only say that the answer is both "yes" and "no." Paradoxically enough, we are dealing with both more and less than what is commonly referred to as "morale." We are mapping roughly the same domain of inquiry that other investigators have described as "morale," but we are seeking to conceptualize, or if you will, to map this domain in a somewhat different way from that in which it previously has been charted. To chart this domain, we have used factor-analytic methods.

We had no illusions about the limitations of factor analysis. We knew full well that one can never get out of a matrix anything that one has not put into it. But we also knew that if we could judiciously combine factorial methods with an appropriate theoretical understanding of the domain under inquiry, we could increase the likelihood of achieving fresh insights. Certainly this strategy is preferable to committing oneself to an a priori set of dimensions, whose sole virtue resides in little more than the fact that the names by which they are known have become commonplace in the folklore of administration.

Similar research that has been done in industry has over and over again pointed to one blunt conclusion: Whatever "morale" may be--and there certainly are many questions in the literature about what it may

⁸Naturally, the present norms are tentative. As replications of the present study are completed and as data are received from fresh samples of schools, we will be able to construct more dependable norms.

be--it clearly is not uni-dimensional in structure. For this reason we knew that we could not hope to map the phenomena with which we were dealing in terms of a single dimension of "morale"; such an oversimplification would distort "reality." A global rating of morale is restricted, too, in another serious way: the description of the way the group behaves and an evaluation of that behavior are confounded.⁹

When we started the project we had vowed to be extremely wary about evaluating different Organizational Climates; our own experience had shown that groups could achieve their "fates" in a variety of ways. Accordingly, we set for ourselves an objective more limited than evaluation: merely the description of a school's Organizational Climate. Yet the more we worked with the findings, the more did judgments about the Climates force themselves upon our attention. The difference in the quality of different Climates became too vivid and too compelling to be ignored.

As happens in most research projects, the scope of our initial intentions turned out to be preposterously ambitious. We had to trim our sails in several ways. At first we had thought that we would be able to take as our unit of description a school system. But we quickly discovered that there was so much variance in Climate from school to school within a given system that statements about a school system as a whole might prove less useful than the description of specific schools. We had thought, too, that we could deal with both elementary and secondary schools in the same study, but our initial interviews with both elementary and secondary teachers

⁹Desirable as it may be to keep descriptions and evaluations distinct, we know that this ideal is seldom achieved. Evaluation has an insidious way of creeping into what may at first glance appear to be even the most innocuous of descriptions.

quickly sobered us; it was not feasible for us to build a single questionnaire which would do justice to both elementary and secondary schools. On starkly practical grounds, we decided to confine this first phase of the inquiry to elementary schools.

We recognized when we had first proposed this study that among the numerous factors which could be conceived as defining the Climate of a school, the following--at the very least--would need to be taken into account: the socio-economic status of the school's patrons; the biographical and personality characteristics of the principal and the teachers; the "quality" of the students; the attitudes of the parents toward the school; the school's physical plant; the teachers' salary schedule; the educational and administrative policies of the school district; the location¹⁰ of the school; and, of prime importance for the present phase of the study, the social interactions that occur between the teachers and the principal. We knew that we could not handle all of these facets simultaneously. Yet we had to start somewhere. So we chose to limit the scope of the present study to descriptions made of the school primarily in terms of teacher-principal relationships.

Accordingly, in this report we will deal with only this one component of Organizational Climate; when we speak of the Organizational Climate within the present context we will refer exclusively to the social interaction between the principal and the teachers--to the "social component" of the Organizational Climate. We do not deny the importance of other com-

¹⁰At least three kinds of location demand recognition: the location of the school within the school system; the location in respect to urban, rural or suburban districts; and the geographical or regional location within the United States.

ponents; we merely say that we will start with the social component and that we will hope to deal with the others at a future time. Moreover, we think that a portion of the social interaction between the teachers and the principal is determined by such "external" factors as have been noted above; hence, the effect of such factors is being tapped, even if only indirectly, by the OCCQ.

In gathering material for the OCCQ items, one point struck us forcibly: that an essential determinant of a school's "effectiveness" as an organization is the principal's ability--or his lack of ability--to create a "climate" in which he, and other group members, can initiate and consummate acts of leadership. One of our guiding assumptions is that a "desirable" Organizational Climate is one in which it is possible for leadership acts to emerge easily, from whatever source. If an organization is to accomplish its tasks, leadership acts must be initiated. However, it should be noted that we do not assume that leadership acts need be confined exclusively to the designated leader, himself. Such acts can be initiated either by the leader or by members of the faculty. If the leader fails to provide sufficient leadership acts¹¹--and leadership acts of sufficient "quality," in that they are "accepted" and that they also lead to increased group "effectiveness"--then members of the group will seek to offer the "leadership" required to make the group "effective." In this view we have been supported by the central finding that pervades all research on leadership and group behavior: an "effective" group must provide satisfaction to group members in two major respects: it must give a sense of task-accomplishment, and it

¹¹Here we follow Hemphill's definition of leadership acts. See John K. Hemphill, "Administration as Problem-Solving," in Administrative Theory in Education, ed. Andrew W. Halpin (Chicago: Midwest Administration Center, University of Chicago, 1958).

must provide members with the social satisfaction that comes from being part of a group. This is simply a paraphrase of Chester Barnard's insistence that a group be both "effective" and "efficient."¹²

Even when we first began our research, one conclusion stood out forcibly: we would have to include in the OCDQ measures of the leader's behavior as well as measures of the group's behavior. From these two sets of measures we might then hope to identify which types of behavior by the leader are "associated"¹³ with specific behaviors among the group members.

In the present study we have had to contend with three severe limitations. To some extent these limitations have been self-imposed because our time-schedule has forced us to restrict ourselves to limited objectives. But in other respects these limitations are methodological and inhere in the nature of the problem that we have tackled.

The first limitation is that at this juncture we have made no attempt whatsoever to determine the relationship between the OCDQ measures and any "external" criteria of the school's "effectiveness." Since a checking of the OCDQ scores against "external" criteria¹⁴ was not to be included in this phase of the project, we have concentrated instead upon repeated

¹²Chester I. Barnard, The Functions of the Executive (Cambridge: Harvard University Press, 1938).

¹³Note that "association" does not necessarily imply causation.

¹⁴Nor are we convinced that such external criteria as ordinarily are used in research in educational administration do, indeed, provide a "criterion" that is any more of a "criterion" than the "predictors" themselves. See, for example, John K. Hemphill, Administrative Performance and Personality (New York: Bureau of Publications, Teachers College, Columbia University, 1962).

evaluations of the internal consistency of the OCDQ--both statistically and conceptually.

The second limitation is that the identification of the dimensions of Organizational Climate entails, by its very nature, the devising of a taxonomy. Taxonomies, of course, can never be judged as "true" or "false," and in this respect, questions about the validity of a taxonomy are irrelevant,¹⁵ if not nonsensical. In the final analysis, the test of every taxonomy must be heuristic.

The third limitation imposed by the nature of the data with which we are dealing pertains to what can be described best as the "phenomenological box." Specifically, when we ask members of a group to describe their leader we can properly ask, "Is this how he really behaves?" Stated differently, how much of the description of the leader that is given by a respondent is determined by the actual stimulus-object of the leader and how much is determined by elements within the perceiver which operate, as it were, almost independently of the person who presumably is being described. Charters, for example, has shown that the variance in teachers' descriptions of principals is sometimes associated more closely with variance in elements within the perceiver than with variance in the behavior of the principals.¹⁶ We agree with Charters. However, during the initial phase of the present project we have not tried to take this finding into account. Naturally, we have checked to be sure that the OCDQ items as well as the subtests differentiate among

¹⁵Cf. Andrew W. Halpin, "The Development of Theory in Educational Administration," in Administrative Theory in Education, ed. Andrew W. Halpin (Chicago: Midwest Administration Center, University of Chicago, 1958).

¹⁶Merrett W. Charters, Jr., "Teacher Perceptions of Administrator Behavior" (Paper prepared for American Educational Research Association, Atlantic City, New Jersey, February 20, 1962).

schools, but beyond this, we have not sought to extricate ourselves from the ubiquitous "phenomenological box." We have assumed that how the leader really behaves is less important than how the members of his group perceive that he behaves; it is their perception of his behavior that will determine the behavior of the group members, and will hence define the Organizational Climate.¹⁷

There is one further caveat to be noted about the research approach which we have used; it is perhaps less a limitation than a qualification, yet it must be taken into account in every study that relies heavily upon factorial methods. In using factor analysis, every investigator finds himself tempted by the voice of a suave Mephistopheles who suggests that the investigator should use a "shotgun approach," that he should be sure to get into the matrix information on everything under the moon that he can think of. This nakedly empirical approach to the selection of items that are to be thrown into the matrix often introduces interaction effects from so many undetermined sources that it later becomes difficult, if not impossible, for the investigator to know what the items are indeed measuring, or to know what plausible names he can assign to whatever factors do emerge from the analysis.

We knew only too well that the computer could not grind out results untouched by human thought; at least we hoped it would not. Accordingly, although the major attack upon our problem was made by empirical methods--specifically, through factor analysis--we were determined to guide and counterbalance this empiricism with a theoretical analysis of the domain of

¹⁷The phenomenological dilemma is nicely illustrated by the story of the wife at the cocktail party who said indignantly to her husband, "Darling, don't you think you ought to stop drinking? Your face is already beginning to get blurred."

our inquiry. We knew that we would have to interpret the meaning of each item in the light of responses on other items to which it was factorially related. For this reason we eliminated items that did not fit a content analysis of item-clusters even when these items did yield high factor-loadings on a particular subtest. In short, we have chosen, within our own human and professional limitations, to combine a concern for theory with a proper respect for statistical analysis.¹⁸

Have personal biases entered into our interpretations? Probably; both consciously and unconsciously. But such biases enter into almost every form of research; our particular and blatant heresy is that we freely admit that we unwittingly may have allowed biases to intrude into the analysis of the data. Yet this provokes in us neither panic nor guilt; the essential self-correcting feature which characterizes the continuing social effort that we call research, eventually will rectify the effect of any temporary biases that may have led us astray. To repeat, the spirit of the present research is heuristic; we have devised a tentative way of describing the Organizational Climate of schools. We believe that our way of mapping a school's Organizational Climate will prove useful; certainly it will not be final.

¹⁸The great physiologist, L. J. Henderson, was fond of using the term "intuitive familiarity" to describe a quality among research workers that allows them to sense what combinations are likely to have predictive effectiveness and which are absurd. We cannot guarantee that our "intuitive familiarity" has served us well in the present research, but neither can we deny that we have repeatedly trusted our decisions to this "intuitive familiarity."

II. THE DEVELOPMENT OF THE ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE

Whenever we seek to create an instrument which purports to map a domain of inquiry we must contend with the perennial and complex issues that plague man's every effort to create useful concepts, or abstractions, about his experience and the events he observes in the universe. Accordingly, to place the present research within a proper setting, let us examine briefly the nature of the process of abstraction. Or to state the issue another way: How do we develop "useful" concepts for dealing with a particular area of inquiry?

We have staked many of our conclusions about Organizational Climates upon various correlational methods. But because the statistical procedures which we have used have sometimes become intricate, it is important to recognize the danger that the details of these manipulations can, at times, obscure the major reason for using them in the first place: that the assignment of numerical values to the units which we seek to measure (i.e., descriptions of specific behaviors), and the subsequent estimates we make of the relationship among these units, allow us to derive abstractions which might otherwise escape the naked eye. In brief, the mass of information which we obtain from descriptions of the behavior of individuals within an organization is too complex for most human minds to grapple with. To reduce this mass of information to a more manageable form, we quantify our units of description; thus we translate verbal language into mathematical language.

We then apply to this mathematical language statistical procedures which help us to identify the major similarities and differences that obtain among these quantitative units. But we must keep in mind the fact that symbols, whether they be words or numbers, are used merely to signify events and experiences. The use of numbers, in itself, guarantees no

greater fidelity to the events to be signified than is to be found in the original descriptions we make of the observed behavior. Statistical procedures, no matter how elaborate, can never compensate for imprecise raw data. Accordingly, we must avoid the fallacy of assuming that numerical values, simply because they appear "objective," are necessarily "better" signifiers than words. Indeed, neither words nor numbers should be construed as the criterion against which the other is to be evaluated; the best that we can hope to do is to establish a "useful" concordance between these two types of symbols, especially in respect to the events that they signify.

Factor analysis is especially suited for the purpose of deriving abstractions from quantitative data; it enables us to delineate the fewest and at the same time, the most salient patterns of response which can account for the major portion of the variance within a given matrix. The patterns which we identify--ordinarily referred to as "dimensions"--constitute statistically derived abstractions about the phenomena. But the point to be stressed is that these abstractions (i.e., the factorially derived dimensions) serve the identical purpose as other abstractions which we can deduce by alternative, but equally logical, means.

To rely solely upon the essentially empirical and inductive procedures of factor analysis would therefore be a mistake. We also can construct "useful" abstractions by deducing the probable "dimensions" of a domain from whatever theoretical knowledge we may already possess about the realm of inquiry. Hence, the most appropriate method for mapping a domain is neither purely inductive nor purely deductive, but is one which combines both approaches, using induction and deduction as dialectical checks against each other. In the present study we have sought to use these two approaches in this way.

In the act of examining any domain of inquiry, we immediately find ourselves confronted with a mass of observations which come to us untagged, unorganized, and often in chaotic form. As we seek to impose order upon these observations, we quickly discover that they vary in ordinality;¹⁹ some observations are highly specific or concrete, while others are more general or abstract. The observations we make vary in three other important respects. First, they vary in affective tone; some are coldly cognitive whereas others are colored by a strong affective component. Second, our observations vary in their "mutedness";²⁰ some stand forth brazenly clear beneath the mid-day sun of our awareness while others nag at the fringe of our consciousness--we sense their importance yet cannot quite verbalize the precise way in which they are important. And finally, the observations we make, especially as they present themselves to us in raw form, possess different degrees of apparent relevance to whatever purpose prompts us to map a particular domain. Despite the variance in observations associated with ordinality, affective tone, "mutedness," and apparent relevance, the investigator must nonetheless reduce the chaos of his observations to manageable form. He must codify, classify, and dimensionalize these observations, and in this way must impose a "useful" order upon them.

How, then, does the scientist "select," or "create," the concepts which he uses to deal with the data he secures from his observations? Whatever the domain of inquiry, in formulating his concepts he must rely upon four fundamental questions:

¹⁹The term "ordinality" is used here in the sense in which it was introduced into the discipline of general semantics. See Alfred Korzybski, Science and Sanity (Lakeville, Conn.: The International Non-Aristotelian Library Publishing Company, 1933).

²⁰Cf. Andrew W. Halpin, "Muted Language," School Review, LXVIII, No. 1 (Spring 1960), 85-104.

1. In what ways are these "things" alike?
2. In what ways are these "things" different?
3. How much of a difference makes a difference?
4. For those differences which we think do make a difference, what can we do with them? What is their relevance?

It is from his answers to these questions that he develops his concepts about the "thingness" of those things which he chooses to subject to further inquiry.

Nor does the use of one way of classifying a set of phenomena exclude the possibility of classifying the same phenomena in a second or a third way.²¹ Whenever phenomena possess a variety of attributes, a different classification can be made in respect to each attribute in turn. But common-sense classifications ordinarily are made in terms of the more readily apparent "givens" of experience. The questions that the investigator must pose to himself--and especially is this true in the case of the behavioral sciences--is whether he can constitute, or can create, new variables (i.e., dimensions) which will provide a fresh basis of pertinence and thus will allow him to order the phenomena in a new and more "useful" way--a way that will permit him to make more accurate predictions about events in the domain.

It was this central question about the constituting of new dimensions of Organizational Climate that dictated our procedures in constructing the OCDQ. As we examined the research literature on leadership and group behavior, we found reported a host of different ways of classifying the

²¹Here we should note, too, Niels Bohr's principle of complementarity which, in slightly paraphrased form, states: The use of certain concepts in the description of nature automatically excludes the use of other concepts, which, however, in another connection are equally necessary for a description of the phenomenon. Cf. Niels Bohr, "The Quantum Postulate and the Recent Development of Atomic Theory," Nature, CXXI (April 14, 1928), 580-90.

attributed to leadership and group behavior. In seeking to reduce these various taxonomies to a more manageable form, we identified three schemata which recurred in the literature so frequently that we could ill afford to ignore them. The first of these classifications focussed upon the locus, or the source, from which interactions stemmed. The second method of classification was evaluative in that it pertained to the "effectiveness" or "ineffectiveness" of the group (or organization). And the third basis of classification dealt with the relationship between the social needs of the individual as a group member, and the social control imposed upon him as the price of being a member of the group.

Let us examine these three schemata more closely.

In surveying the literature even before we had begun to collect items, we had noted that group interactions often were categorized under the following four headings:

1. Interactions determined primarily by the leader's behavior.
2. Behavior attributable to characteristics of the group qua group.
3. Interactions determined by procedures or by actions of an executive in a position hierarchically superior to the leader himself (i.e., the superintendent and the Board of Education limit the principal's range of decisions).
4. Interactions determined primarily by the behavior of individuals qua individuals, and hence associated directly with the "personality" assets and liabilities of the individual.

A second way of classifying organizations is in respect to their "effectiveness" or "ineffectiveness." Four "ideal types"²² of organizations can be noted:

²²"Ideal types" refers here to pure, theoretical types, and not to an exemplary "ideal." See Max Weber, The Theory of Social and Economic Organizations, trans. A. M. Henderson and Talcott Parsons (New York: Oxford University Press, 1947), p. 13, and p. 89, footnote 89.

1. The "Effective" organization.
2. The Social-needs oriented organization.
3. The Task-oriented organization.
4. The "Ineffective" organization.

The third theme, or basis for classifying group interactions, concerns the relationship between the social needs of the individual and the social control imposed upon him as a member of a group. All human beings seek to satisfy their individual social needs. But modern, organized society requires that human beings also be members of social groups. Indeed, very few of us today can even earn a living without being a member of a work-group; thus we are required to submit to whatever discipline the group may impose upon members as the price for membership. To become a member of a group a man must sacrifice some measure of "freedom." He must, for example, be on the job from eight to five; he must inhibit any social needs that prompt him to "goof off" on the job. Membership in every group exacts a price from the individual. This is true even in the case of the dyadic group formed when a man and a woman marry. Each member of the pair satisfies certain social needs in the act of composing the marriage group. But in return for such satisfaction of social needs as each receives, each member also must submit to certain social controls which are, indeed, incorporated into the marriage vows themselves, and which are then further re-enforced by the norms of the culture. In brief, we knew that in formulating concepts about Organizational Climates, we would have to take into account the balance maintained between the satisfaction of individual social needs and the organization's requirements for social control.²³

²³This theme is treated with especial cogency by William C. Schutz, FIRO: A Three-Dimensional Theory of Interpersonal Behavior (New York: Rinehart, 1958).

Recognizing that we dared not ignore any one of these three ways of looking at a group, we decided to build into the OCDQ a collection of items which would representatively reflect all the categories posited by these three different ways of classifying group phenomena. This, then, was the major "theoretical" bias with which we approached the job of gathering items for the OCDQ.

Our strategy in constructing the OCDQ was simple. We collected items and then classified them in respect to how well they fitted into the cells of each of the three taxonomies that we have just described. Much of this work in assigning items to the "proper" cell was done on an "intuitive," common-sense basis. We constructed three preliminary Forms of the OCDQ. We tested each Form in turn, with a different sample of schools, and at each step, checked the items to determine how they clustered together and to what extent the dominant clusters were consonant with any one, or more, of the "theoretical" taxonomies which we had adopted as our guides. Only after we had reiteratively checked the first three Forms of the OCDQ did we feel that we had identified a tentative set of "dimensions" which warranted corroboration by other and more rigorous methods of factor analysis. Fortunately, the combination of inductive and deductive methods which we had used in assembling the items for the questionnaire did, in fact, yield eight subtests which we subsequently were able to "verify" by factor analysis. Armed with this verification, we then constructed the "final" Form (IV) of the OCDQ.

In broad outline, this is how we built the OCDQ. Now, we will report sequentially the development of the questionnaire. Obviously, the steps which we will delineate here were not as clear-cut as this report may make them appear; each step tended to merge with others. We were engaged

continuously in a kind of "balancing act" in which we used theoretical insights to modify the results of the empirical sortings of items, and concomitantly adjusted our theoretical notions to the "realities" adduced from the successive cluster analyses and factor analyses of the data themselves. Let us examine these procedures in detail.

Step 1: The Generation of the OCDOQ Items.

We decided early in the game that in constructing the OCDOQ it would be best to use a set of Likert-type items. We prepared a set of simple statements and asked the respondent to indicate to what extent each statement characterized his school.²⁴ The following items illustrate the kind of statements we used:

1. The principal insures that teachers work to their full capacity.
2. The principal is in the building before teachers arrive.

²⁴At one point we had toyed with the idea of using a forced-choice technique in constructing the questionnaire. We rejected this notion for two reasons. In the first place, we were confronted by the practical fact that we could not prevail upon a faculty group to volunteer too much of its time. By necessity, in most instances our meetings with faculty groups had to take place at the end of the school day, and had to be scheduled either in lieu of a regular faculty meeting or in addition to such a meeting. Previous experience in administering similar questionnaires to teachers and superintendents had taught us that cooperation is likely to be vitiated by after-school testing sessions that last much more than an hour. Recognizing the probable length--even in a straightforward, Likert form--of the questionnaire that would emerge from our inquiry, we knew that if we were to couple the items into all possible pairs for forced-choice purposes we would produce a questionnaire which would be so long and which would demand so much time from the teachers that we would jeopardize our chances of securing cooperation. The second reason for not using a forced-choice procedure was equally practical. We knew that the first step in our inquiry was to identify the dimensions of the Organizational Climate by factorial methods. This, of course, would allow us to construct the type of instrument which we now have. If at a later date we should care to improve our measuring procedure, we could then place the items into a forced-choice format. So we decided that what we sought to do in this first phase of the research could be done best by using a straightforward measure of attitudes.

3. The principal helps teachers solve personal problems.
4. Teachers ask nonsensical questions in faculty meetings.
5. Most of the teachers here accept the faults of their colleagues.

The scale against which the respondent indicated the extent to which each statement characterized his school was defined by four categories:

1. Rarely occurs.
2. Sometimes occurs.
3. Often occurs.
4. Very frequently occurs.

Obviously, answers to questions of the type that we have used in the OCDQ provide not measures of "fact," but measures of perception, and in this respect, indices of attitudes. When you ask teachers to describe the climate of their school, what you get in response is, of course, a description of the school according to the perception of each respondent. If Miss Ann Thrope, in the fourth grade, describes her principal as inconsiderate and tyrannical while Miss Polly Annah describes him as extremely considerate and thoughtful, one is tempted to ask, "But really, which is he?" This is an unanswerable question, for he can be said to be either neither or both. For our purposes, we have chosen to say that he "is" what a consensus of observers from a given reference group declare that he "is." Yet we know that this "is-ness" must always be defined in respect to a specified reference group.

Miss Thrope's perception of him influences the way she behaves toward him, and in like manner, Miss Annah's perception determines the way in which she behaves toward him. Here we are confronted by the perennial phenomenological dilemma: each person is limited to seeing the world through only his own perceptions. Yet we were prepared--and are still

prepared--to take the position that when a majority of the faculty group shows consensus in its perception of a school's climate this consensus can be used as a dependable index of what is "out there."²⁵

As we approached the task of constructing items for the OCDQ, we specified a few ground rules to guide us in selecting items. Obviously, any item that was answered in the same way by all respondents from all schools would be worthless; it would add no discriminative power to the instrument. Contrariwise, any item on which the group members of a single school could not achieve essential agreement would also be of dubious value. We faced a two-pronged requirement. We wanted items which would yield a "reasonable" amount of consensus within a given school, but which also would permit discrimination among schools. Since we had to deal with both requirements, we could not easily establish a priori rules for deciding which items were to be "in" and which were to be "out." These decisions had to be made with considerable flexibility.

But the necessity for resorting to such flexibility did not disturb us because we knew that we could check the relevance of the chosen items at several successive steps in the construction of the OCDQ. Indeed, the single word that best characterizes our methodology is "iteration." Our procedures in choosing items in the first place were iterative. The subsequent factorial procedures were iterative. And as it turned out, even our "theoretical" predilections about what dimensions might emerge were forced to become iterative. Yet we do not apologize for this, since iteration lies at the heart of all scientific methods.

²⁵We use "out there" in this context in an "operational" rather than a philosophical sense.

How, then, did we write the items for the OCDQ? How did we decide which items we would retain in each of the successive Forms of the questionnaire?

We constructed items based upon information obtained from "live" school situations. But we also "arm-chaired" items that were keyed to our theoretical notions about what might be the probable dimensions of the Organizational Climate. As a first step in building the item bank, we asked approximately 100 graduate students in education to describe some of the interpersonal events and experiences that had most vividly impressed them during their teaching careers. We checked these descriptions for redundancy, and from those descriptions that survived our first screening we obtained a great amount of information which allowed us to compose items that were "lively" and that were worded in the very language of the respondents.

The literature contributed additional items to our instrument. Specifically, other instruments such as the Leader Behavior Description Questionnaire²⁶ and the Group Dimensions Description Questionnaire²⁷ provided us with items that fitted easily into the proposed questionnaire. Then, too, by analyzing the content of the new items which we had gathered, it became possible for us to infer new dimensions of social interaction which these items might be reflecting. Where such inferred dimensions contained a paucity of items, we wrote additional items which we hoped would pin down and identify these new, tentative dimensions.

²⁶Andrew W. Halpin, The Leadership Behavior of School Superintendents (2nd ed.; Chicago: Midwest Administration Center, University of Chicago, 1959).

²⁷John K. Hemphill, Group Dimensions: A Manual for Their Measurement (Columbus, Ohio: Bureau of Business Research, The Ohio State University, 1956).

As our store of items increased, we used "depth interviews" with teachers to supplement the other "item-harvesting" methods. During the course of these interviews, the interviewer pursued every "critical incident" that the teacher described and, in particular, cajoled the teacher into explaining his "off-the-cuff" remarks. These depth interviews focused our attention upon certain areas of social interaction which we initially had overlooked. Furthermore, the temper of the comments made by the teachers proved extremely useful to us at a later stage when it became necessary to establish putative dimensions for the OCDQ even before we had begun to factor-analyze the data.

Having obtained 1000 items through these several approaches, we next screened the items for clarity and for redundancy. The residue was then checked to exclude those items which possessed high affective tone or which were worded in such fashion that they might invite, automatically, a socially desirable and hence, a "rigged" response. Approximately 600 items survived this first screening. We used these items as the core from which we subsequently identified the major dimensions of the OCDQ.

We sorted these 600 items into groups according to the instructions which clinical psychologists customarily use in administering Sorting Tests,²⁸ "Put with each other those that go with each other." In brief, we sorted the 600 items on a common-sense basis and tried to determine in what ways the items seemed to constellate. To each constellation which emerged we assigned a plausible name. These names are listed in Figure 2. Tentatively, we viewed these constellations as "potential"

²⁸See, for example, Egon Weigl, "On the Psychology of So-Called Processes of Abstraction," Journal of Abnormal and Social Psychology, XXXVI, No. 1 (January 1941), 3-33.

Figure 2

ASSIGNMENT OF EMPIRICALLY-DERIVED
CONSTELLATIONS^a OF 600 OCDQ ITEMS
TO A TAXONOMY OF "IDEAL TYPES"
OF ORGANIZATIONS

Quadrant IV <u>Task-Oriented Organization</u> High Task-Achievement Low Social-Needs Satisfaction 1. <u>Production Emphasis</u>^b 2. <u>Evaluation</u> 3. <u>Aloofness</u> 4. <u>Procedural Stability</u> 5. <u>Clarity of Communication</u>	Quadrant I <u>"Effective" Organization</u> High Task-Achievement High Social-Needs Achievement 1. <u>Esprit</u> 2. <u>Social Tolerance</u> 3. <u>Synergy</u> 4. <u>Sharing of the Work</u> 5. <u>Intimacy</u> 6. <u>Flexibility</u> 7. <u>Thrust</u>
Quadrant III <u>The "Ineffective" Organization</u> Low Task-Achievement Low Social-Needs Satisfaction 1. <u>Verbal Freedom</u> 2. <u>Consideration</u> 3. <u>Expression of Hostility</u> 4. <u>Hindrance</u> 5. <u>Social Isolation</u> 6. <u>Passive Resistance</u> 7. <u>Disengagement</u>	Quadrant II <u>The Social-Needs Oriented Organization</u> High Social-Needs Satisfaction Low Task-Achievement 1. <u>Stratification</u> 2. <u>Conformity</u> 3. <u>Information Availability</u> 4. <u>Narcissistic Behavior</u> 5. <u>Favoritism</u> 6. <u>Procedural Clarity</u>

^aThese captions are names that were assigned purely on a priori grounds to the constellations of items that had emerged from our sorting of a total of 600 items.

^bThe eight italicized constellations are those which survived as subtests in the "final" version, Form IV, of the OCDQ. These are defined in Plate III on page 39.

subtests to measure discriminable dimensions of the Organizational Climate.

We inspected these crude constellations to see whether they, in turn, could be grouped into a high-order system of classification. The most parsimonious classification of these constellations was one that accounted for the four "ideal types" of organizations. We then assigned the empirical constellations of items to the four respective quadrants. But at the same time that we sought to reconcile our empirical grouping of items with the schema of the four quadrants (representing the four "ideal types" of organizations), we also tried to take heed of one further basis of pertinence which we have already described: the four-fold classification of behavior in terms of the essential source of interaction (i.e., from the leader, from the group qua group, from the individual qua individual, and from procedures or policies). Trying to juggle these three bases of sorting--the empirical grouping of items, the assignment of items to the quadrant which seemed most pertinent, and the distribution of items into these quadrants according to the source of interaction--became tricky. For this reason, we viewed the arrangement in Figure 2 as extremely tentative. We constructed this schema simply to help us "get ahead with the game."

Many of the items included in the item-bank had been chosen because they defined "critical incidents." The very fact that the incidents were "critical" left the way open for a respondent to describe extreme situations which, although statistically atypical, did nonetheless possess extreme diagnostic importance. Such critical incidents tended to categorize the school into one of these four "pure" types. Yet we knew full well that, from a practical point of view, we were likely to find that no

school would fit perfectly into any one of these four categories. Rather, the behaviors referred to under each of these types of organization probably would be present--in differing degrees, of course--in virtually every school organization.

The four ideal types of organizations correspond roughly to the four quadrants that Halpin had defined in his earlier studies of the leadership behavior of aircraft commanders.²⁹ In Figure 2 we have substituted for the concepts of Consideration and Initiating Structure those of Social-Needs Orientation and Task-Achievement Orientation. Using this schema as a guide, we next proceeded to "test" Form I of the OCDQ.

Step 2: The Testing of the OCDQ, Form I.

At this stage we had in hand 600 items which we had tentatively categorized under the rubrics, and within the quadrants, of Figure 2. We knew that if we should attempt to administer a 600-item questionnaire to elementary-school staffs we would receive a cool reception. Hence, for practical reasons we chose to pre-test these 600 items in four different, but similar, preliminary forms of the OCDQ, each of which contained 150 items. The items incorporated into each of the four forms were drawn from all four quadrants.³⁰

²⁹Andrew W. Halpin, Studies in Aircrew Composition III: The Combat Leader Behavior of B-29 Aircraft Commanders (Washington, D.C.: Bolling Air Force Base, Human Factors Operations Research Laboratories; Air Research and Development Command, HFORL Memo No. TN-54-7, 1953). Also, see Andrew W. Halpin, "The Leadership Behavior and Leadership Ideology of Educational Administrators and Aircraft Commanders," Harvard Educational Review, XXV, No. 1 (Winter 1955), 13-32.

³⁰The items for this preliminary form of the OCDQ and for all subsequent forms were printed directly on a set of IBM mark-sensing cards. The cards of each set were pre-punched for identification purposes; the respondents marked their answers with electromatic pencils. The details of this innovation in using mark-sensing cards for the OCDQ are discussed in Appendix A.

We then administered these four versions of the OCDQ, Form I, to the faculties of a heterogeneous sample of 17 elementary schools, selected on the basis of differences in the modernness of their physical plants, differences in the socio-economic level of the school's patrons, and differences in the adjudged "morale"³¹ of the teachers. The chief criterion in choosing this sample was the heterogeneity of the schools. We secured replies from 284 respondents in this sample of 17 schools.

We made an item analysis for each of the four versions of this Form I of the OCDQ (a total of 600 items) and in this way determined which items differentiated among schools. The responses to each item were counted and were listed by school to spot those items that showed maximum variance across schools while at the same time yielding low variance within each school. On this count we eliminated approximately 100 items from each of the four forms. Since each version of Form I contained a different set of items and had been administered to a different sample of respondents, we could not pool the data for the residual 257 items into a single correlation matrix. Instead, we computed a separate inter-item correlation matrix for each of the four versions. (The size of each matrix was approximately 60 x 60.) Next, we cluster-analyzed, by inspection, each of the four correlation matrices. This allowed us to identify those items within each form which seemed to align themselves on a discernible dimension.

Our purpose at this juncture was to identify potential subtests within each of the four correlation matrices. The correlations in these matrices gave us one type of empirical information. But we also wanted to check the content, or the presumed meaning, of those items which we proposed to group

³¹As estimated by the superintendent of schools.

into subtests. Hence, our next step was to examine the content of those items which the statistical analysis had shown to cluster together. Wherever the content of the item in respect to a particular cluster did not "make sense," we set it aside in the hope that we later might discover a better "fit" for it. This two-way analysis of the items, in respect to statistical association and intrinsic content, permitted us to posit several possible dimensions (i.e., subtests) which we believed would describe the total set of responses more parsimoniously. We then juxtaposed the subtests suggested by each of the four matrices, and determined whether similar dimensions were being tapped by two or more of the four versions of the questionnaire.

We next combined similar item-clusters from the four versions. As might have been expected, many of the original items had "washed out." Of the 600 items that we had started with, only 160 survived the three types of analysis described above: the differentiation among schools, the cluster analysis, and the analysis of intrinsic content. However, we found that these 160 items constellated into 16 clusters, or dimensions, which made good sense in terms of current knowledge about organizational theory.

These empirical findings forced us to modify our classification schema. An examination of the 16 dimensions suggested that the classificatory schema based upon the source of interaction (i.e., the individual, the leader, the group, and procedures) would now serve us better than the "ideal-types" taxonomy which we had used originally. To construct Form II of the OCDQ we used the 160 items which composed these 16 putative dimensions, and then grouped these dimensions³² according to the "source of interaction" to which they most pertained (See Plate I).

³²The assignment of a few of these dimensions to one rubric rather than to another was obviously arbitrary. Nonetheless, this "model," or grouping of items, proved to be heuristic in that it helped us to understand better those dimensions which subsequently were "verified" by further factor analysis.

PLATE I

Tentative 16 Dimensions to Which
The 160 Items of the OCDQ (Form II)
Were Assigned, Grouped According to
Relevant "Source of Interaction"

THE LEADER	THE GROUP
<u>Thrust^a</u>	Group Autonomy
<u>Production Emphasis</u>	Synergy
<u>Communication Clarity</u>	<u>Esprit</u>
<u>Aloofness</u>	<u>Disengagement</u>
THE INDIVIDUAL	PROCEDURES ^c
<u>Consideration^b</u>	Monitoring
<u>Procedural Acceptance</u>	Procedural Control
<u>Intimacy</u>	Procedural Stability
<u>Hindrance</u>	Procedural Consideration

^aThe italicized dimensions are those which were finally retained in Form IV of the OCDQ.

^bWe were not certain to which of the four Sources of Interaction the items on Consideration should have been assigned. A case could be made for assigning them to either the "Individual" or the "Leader" category. Actually, at this stage we guessed wrong, for the subsequent factor analysis upon which Form IV of the OCDQ was based revealed that the Consideration items should have been attributed to the leader's behavior.

^cAt this stage many of the items seemed to reflect behavior which could be construed to pertain to different facets of procedural stability, control and acceptance. In subsequent analyses of the data these facets were smoothed down. The "Procedure" items were distributed principally into three of the final "esprit" dimensions: Hindrance, Esprit and Aloofness. (Obviously, Hindrance and Aloofness are scored negatively in respect to Esprit).

Step 3: The Testing of the OCDQ, Form II.

Beyond revising the grouping of the dimensions, we also had to "clean" the items themselves. Some of the items had to be re-worded, some had to be eliminated and others had to be re-written in order to reconcile them with our new basis for grouping. We noted, for example, that the wording of certain items influenced the statistical correlation among them. For example, some items correlated with each other solely because they shared in common an identical key word. Furthermore, all items that contained words which had undesirable connotations were re-written or re-worded in order to pinpoint more accurately the meaning of the dimension to which the item belonged. For example, where an item was intended to describe a "procedure," words referring to an individual or to his behavior were eliminated from the item; e.g., "Schedule changes are posted conspicuously at this school," not, "The principal conspicuously posts all schedule changes for the teachers to view."

Where were we now? We had analyzed the responses to the 600 items of the OCDQ, Form I, secured from 284 teachers and principals. We had eliminated 440 of the 600 items and our examination of the residual 160 items suggested that we should discard the taxonomy of "Ideal types" of organizations (Figure 2), and should instead, adopt, purely for convenience, the grouping of dimensions shown in Plate I.

Finally, we had constructed Form II of the OCDQ, composed of those 160 items which had survived Form I. We administered Form II to a fresh sample of five extremely heterogeneous schools, from which we secured 91 respondents. We then again tested these 160 items to determine whether they differentiated among schools.³³ Again, we cluster-analyzed the responses

³³In a sense, this was a "cross-validation" of the differentiating power of the items; another 80 items were eliminated by this process.

to see which dimensions had survived. This time, eight dimensions, composed of a total of 80 items, survived the analysis, and we used these items to compose Form III of the OCDQ (Figure 3). Quadrants I and IV contain dimensions which are associated primarily with the satisfaction of social needs, whereas Quadrants II and III pertain to social control, and by the same token, to task accomplishment. Moreover, Quadrants I and II pertain chiefly to the leader's behavior, whereas Quadrants III and IV are more closely related to the behavior of the group qua group.

The assignment of dimensions to the four quadrants is evaluative in the sense that the quadrant arrangement corresponds, in part, to that used in the original study of the LBDQ.³⁴ Specifically, Quadrant I defines a "good" situation in that the group members secure adequate satisfaction of social needs and also feel a sense of task accomplishment. Contrariwise, Quadrant III represents a situation in which the group experiences neither an adequate satisfaction of social needs nor a sense of task accomplishment. Quadrants II and IV both provide for only a portion of what one would hope for in an ideal organization. Quadrant II denotes high task-orientation, but with insufficient attention to satisfying the social needs of the group members. Conversely, Quadrant IV defines a situation in which the group members receive a high satisfaction of social needs but also enjoy little sense of task accomplishment.

We decided that these eight relatively pure measures of the Organizational Climate would more meaningfully describe the variety of interactions that occur within a school organization than would only four, or even two,

³⁴Andrew W. Halpin, The Leadership Behavior of School Superintendents, op. cit.

Figure 3

EIGHT DIMENSIONS OF THE OCDQ, FORM III (80 items)

	Group	Leader
Dimensions Associated Primarily with Social- Needs Satisfaction.	IV Esprit Intimacy	I Thrust Consideration
Dimensions Associated Primarily with Aspects of Social Control.	III Disengagement Hindrane	II Production Emphasis Aloofness

purer dimensions. We believed that were we to reduce the number of dimensions below eight, we would risk the loss of highly relevant information. In short, we chose to sacrifice some degree of "purity" of measurement in order to secure a more analytical description of the Organizational Climate.

Step 4: The Testing of the OCDQ, Form III.

As we have mentioned before, iteration describes a process of continuous refinement; where to stop the process of iteration is a question of practical strategy. We had by now reached a point where we were satisfied with the iteration--in respect to both the item-analysis and the cluster-analysis--and believed that we had pre-tested the OCDQ sufficiently to permit us to use it with a broader sample of schools.

Accordingly, we printed Form III of the OCDQ, composed of the 80 items which had survived Form II. We then administered the OCDQ, Form III, to a sample of 66 schools, located in Utah, California, Wisconsin, Illinois, New York, and Tennessee. We re-scored the questionnaire blanks of the OCDQ, Form II that had been given earlier to 91 respondents in five schools, but we now counted only those 80 items contained in Form III of the instrument. In this way we were able to increase the sample size for our analysis of the Form III data, and now could work with data from 1151 respondents in a total of 71 elementary schools.

We computed the item intercorrelations (N=1151 respondents) for the 80 items that composed Form III of the OCDQ.³⁵ We then examined the pattern of correlations and cluster-analyzed the matrix to determine how well each item "fitted" the dimension to which it tentatively had been assigned.

³⁵For these computations we used the facilities of the Western Data Processing Center (WDPC) at the University of California at Los Angeles.

Concurrently, we re-examined the content of the items to be sure that all the items assigned to a given dimension did, indeed, describe a similar type of social interaction.

The correlations dictated that we shift some of the items to other subtests. Furthermore, we eliminated sixteen items because they were redundant, or because the additional variance which they contributed to the measurement of a particular dimension did not warrant their inclusion in the questionnaire. We retained only those items that passed the hurdles of both the content analysis and the correlational analysis. By taking these two precautions we reduced the risk of having to deal with dimensions which were factorially too complex or which could not be "understood" from the context of the items themselves. By now we had reduced the OCDQ to the 64 items which compose the final form, Form IV, of the questionnaire. These 64 items are listed in Appendix B in the order in which they appear in the questionnaire, together with the instructions for administering the instrument. The intercorrelation matrix for these 64 items is presented in Appendix C.

The cluster-analysis of these 64 items substantiated our previous classification of the items into eight subtests. These subtests could, in turn, be divided into two sets of four subtests each. The first set pertains to the teachers' behavior; the second, to the principal's behavior. The items for the first set are listed in Plate II, those for the second in Plate III. All the items are scored positively except those which have been marked with a minus sign (-); these, of course, are scored inversely. The items marked with an asterisk are the "tracer" items for each subtest. In Plate IV we have defined the eight dimensions of Organizational Climate which we presume are being measured by these eight subtests.

PLATE II

OCDQ, FORM IV, ITEMS THAT COMPOSE FOUR SUBTESTS: TEACHERS' BEHAVIOR

I - DISENGAGEMENT

- *1.^a The mannerisms of teachers at this school are annoying.
- 2. There is a minority group of teachers who always oppose the majority.
- 3. Teachers exert group pressure on non-conforming faculty members.
- 4. Teachers seek special favors from the principal.
- 5. Teachers interrupt other faculty members who are talking in staff meetings.
- 6. Teachers ask nonsensical questions in faculty meetings.
- 7. Teachers ramble when they talk in faculty meetings.
- 8. Teachers at this school stay by themselves.
- 9. Teachers talk about leaving the school system.
- 10. Teachers socialize together in small select groups.

II - HINDRANCE

- *11. Routine duties interfere with the job of teaching.
- 12. Teachers have too many committee requirements.
- 13. Student progress reports require too much work.
- 14. Administrative paper work is burdensome at this school.
- 15. Sufficient time is given to prepare administrative reports.
- 16. Instructions for the operation of teaching aids are available.

III - ESPRIT

- *17. The morale of the teachers is high.
- 18. The teachers accomplish their work with great vim, vigor and pleasure.
- 19. Teachers at this school show much school spirit.
- 20. Custodial service is available when needed.
- 21. Most of the teachers here accept the faults of their colleagues.
- 22. School supplies are readily available for use in classwork.
- 23. There is considerable laughter when teachers gather informally.
- 24. In faculty meetings, there is the feeling of "let's get things done."
- 25. Extra books are available for classroom use.
- 26. Teachers spend time after school with students who have individual problems.

IV - INTIMACY

- *27. Teachers' closest friends are other faculty members at this school.
- 28. Teachers invite other faculty members to visit them at home.
- 29. Teachers know the family background of other faculty members.
- 30. Teachers talk about their personal life to other faculty members.
- 31. Teachers have fun socializing together during school time.
- 32. Teachers work together preparing administrative reports.
- 33. Teachers prepare administrative reports by themselves.

*These items are the key (i.e., "tracer") items in each dimension.

^aThese numbers are used solely to list the items here and to provide a convenient way of referring to them in the Tables presented in Appendices C and D.

PLATE III

OCDQ, FORM IV, ITEMS THAT COMPOSE FOUR SUBTESTS: PRINCIPAL'S BEHAVIOR

V - ALOOFNESS

- *34.^a Faculty meetings are organized according to a tight agenda.
- 35. Faculty meetings are mainly principal-report meetings.
- 36. The principal runs the faculty meeting like a business conference.
- 37. Teachers leave the grounds during the school day.
- 38. Teachers eat lunch by themselves in their own classrooms.
- 39. The rules set by the principal are never questioned.
- 40. Teachers are contacted by the principal each day.
- 41. School secretarial service is available for teachers' use.
- 42. Teachers are informed of the results of a supervisor's visit.

VI - PRODUCTION EMPHASIS

- *43. The principal makes all class scheduling decisions.
- 44. The principal schedules the work for the teachers.
- 45. The principal checks the subject matter ability of teachers.
- 46. The principal corrects teachers' mistakes.
- 47. The principal insures that teachers work to their full capacity.
- 48. Extra duty for teachers is posted conspicuously.
- 49. The principal talks a great deal.

VII - THRUST

- *50. The principal goes out of his way to help teachers.
- 51. The principal sets an example by working hard himself.
- 52. The principal uses constructive criticism.
- 53. The principal is well prepared when he speaks at school functions.
- 54. The principal explains his reasons for criticism to teachers.
- 55. The principal looks out for the personal welfare of teachers.
- 56. The principal is in the building before teachers arrive.
- 57. The principal tells teachers of new ideas he has run across.
- 58. The principal is easy to understand.

VIII - CONSIDERATION

- *59. The principal helps teachers solve personal problems.
- 60. The principal does personal favors for teachers.
- 61. The principal stays after school to help teachers finish their work.
- 62. The principal helps staff members settle minor differences.
- 63. Teachers help select which courses will be taught.
- 64. The principal tries to get better salaries for teachers.

*These items are the key (i.e., "tracer") items in each dimension.

^aThese numbers are used solely to list the items here and to provide a convenient way of referring to them in the Tables presented in Appendices C and D.

PLATE IV

DEFINITION OF EIGHT SUBTESTS OF THE OCDQ (FORM IV, 64 ITEMS)

Teachers' Behavior

1. DISENGAGEMENT refers to the teachers' tendency to be "not with it." This dimension describes a group which is "going through the motions," a group that is "not in gear" with respect to the task at hand. It corresponds to the more general concept of anomie as first described by Durkheim.^a In short, this subtest focusses upon the teachers' behavior in a task-oriented situation.
2. HINDRANCE refers to the teachers' feeling that the principal burdens them with routine duties, committee demands, and other requirements which the teachers construe as unnecessary busy-work. The teachers perceive that the principal is hindering rather than facilitating their work.
3. ESPRIT refers to "morale." The teachers feel that their social needs are being satisfied, and that they are, at the same time, enjoying a sense of accomplishment in their job.
4. INTIMACY refers to the teachers' enjoyment of friendly social relations with each other. This dimension describes a social-needs satisfaction which is not necessarily associated with task-accomplishment.

Principal's Behavior

5. ALOOFNESS refers to behavior by the principal which is characterized as formal and impersonal. He "goes by the book" and prefers to be guided by rules and policies rather than to deal with the teachers in an informal, face-to-face situation. His behavior, in brief, is universalistic rather than particularistic; nomothetic rather than idiosyncratic. To maintain this style, he keeps himself--at least, "emotionally"--at a distance from his staff.
6. PRODUCTION EMPHASIS refers to behavior by the principal which is characterized by close supervision of the staff. He is highly directive, and plays the role of a "straw boss." His communication tends to go in only one direction, and he is not sensitive to feedback from the staff.
7. THRUST refers to behavior by the principal which is characterized by his evident effort in trying to "move the organization." "Thrust" behavior

^aEmile Durkheim, Le Suicide (Paris: Librairie Felix Alcan, 1930), p. 277. Anomie describes a planlessness in living, a method of living which defeats itself because achievement has no longer any criterion of value; happiness always lies beyond any present achievement. Defeat takes the form of ultimate disillusion--a disgust with the futility of endless pursuit.

PLATE IV (con.)

is marked not by close supervision, but by the principal's attempt to motivate the teachers through the example which he personally sets. Apparently, because he does not ask the teachers to give of themselves any more than he willingly gives of himself, his behavior, though starkly task-oriented, is nonetheless viewed favorably by the teachers.

8. **CONSIDERATION** refers to behavior by the principal which is characterized by an inclination to treat the teachers "humanly," to try to do a little something extra for them in human terms.

Step 5: The Factor Analysis of the Item Matrix.

We next secured a principal-component factor analysis of the 64 x 64 Item intercorrelation matrix. (This unrotated item factor matrix may be found in Appendix D.) We followed Kaiser's³⁶ recommendation and entered a value of 1.00 in the diagonal of the matrix before we computed the factor solution. We extracted from this matrix eighteen factors with eigenvalues³⁷ above 1.00. Kaiser has proposed this arbitrary standard of an eigenvalue of 1.00 as the point at which to stop factoring, because factors with eigenvalues less than 1.00 usually are too small to interpret meaningfully. Moreover, when factors with eigenvalues less than 1.00 are included in a rotational solution, the "simple structure" of the factor pattern often becomes distorted.

At this juncture we decided to depart from the orthodox rules for factor analysis; we chose to secure a varimax rotational solution for the first 8 of the 18 factors which we had extracted from the Item intercorrelation matrix. We reasoned that if we could be successful in choosing those eight dimensions which would account "best" for the variance in the 64 items, then the items within each subtest would yield a high loading on one of the eight factors and would yield loadings close to zero on the other seven. Moreover, if the items within each subtest should all load high on the same factor, we could conclude that each item was presumably measuring the same general type of social interaction as were the other items in the

³⁶Henry F. Kaiser, "Comments on Communalities and the Number of Factors," Paper read May 14, 1960, at an informal conference on "The Communality Problem in Factor Analysis," held at Washington University, St. Louis, and sponsored by Professor Philip H. DuBois.

³⁷An eigenvalue represents the sum of the squared factor loadings for each unrotated factor when the communalities of the variables are 1.00; it thus crudely indicates the "importance" of the factor. See Harry H. Harman, Modern Factor Analysis (Chicago: University of Chicago Press, 1960), p. 157.

set. But even more important, by employing this procedure we also could deliberately use an 8-factor rotational solution to "test" the eight subtests which we had identified earlier by both content and cluster analysis.

The matrix for the 8-factor varimax rotational solution for the 64 items, grouped according to subtest, is presented in Table I. The data in this matrix support the way in which we had classified the items on the basis of both content analysis and cluster analysis. The items within each subtest do, indeed, yield high loadings on only one of the eight factors, and each item within each subtest loads high on the same factor as do the other items from the same subtest. Hence, each subtest is relatively independent, and for this reason its score can be construed as representing a "factor."

Thus, the analysis showed that the "best" factorial way for categorizing the behaviors described by the 64 items was actually in accord with the way in which we previously had mapped the domain in respect to the eight subtests (i.e., dimensions). If we had obtained a factor pattern in which most of the items in a given subtest had failed to load on the same factor, then we would have been forced to conclude that we had not chosen the "best" eight sets of item groups. But this did not prove to be the case.³⁸ Instead, the 8-factor rotational solution confirmed the dimensions which we had identified originally.

This factor analysis at the item level allowed us to assign each item to its "proper" subtest, and gave us the "best" eight subtests in that they each furnished a relatively pure measure of a different and a major type of social interaction.

³⁸As a matter of fact, we did adjust a few of the items by shifting them from one subtest to another. But we did this only when both the content of the items and its factor loadings showed that the item could be fitted as easily into one subtest as into another. For the majority of the items, however, no change in subtest assignment was required.

Table 1

ROTATED ITEM FACTOR MATRIX FOR
64 ITEMS OF THE OCDQ, FORM IV
(N=1151)

		I	II	III	IV	V	VI	VII	VIII	h ²
DISENGAGEMENT	1.	-08	-49	-10	-01	06	06	16	-21	33
	2.	-05	-44	-05	05	02	08	14	-30	31
	3.	-10	-38	05	15	-06	11	15	-32	32
	4.	-06	-36	11	-02	11	17	19	-33	33
	5.	-06	-63	06	-14	08	13	-09	03	46
	6.	-05	-58	-05	01	05	07	11	08	37
	7.	-07	-68	-02	-01	12	-01	01	19	52
	8.	-04	-20	-23	13	07	-08	12	-40	30
	9.	-18	-29	05	26	17	-18	18	-15	31
	10.	-02	-46	09	19	-11	-09	21	-13	34
HINDRANCE	11.	-03	-13	03	06	68	-09	05	-06	49
	12.	-05	-06	06	08	59	05	02	-11	38
	13.	-01	-06	-06	04	62	06	04	-16	42
	14.	05	-08	-01	09	66	-01	01	01	46
	-15.	21	-02	10	02	-51	08	-17	-09	35
	-16.	35	14	05	12	-17	12	-37	-12	35
ESPRIT	17.	34	19	19	-27	-13	32	-41	06	55
	18.	21	29	18	-10	-09	34	-45	01	50
	19.	22	25	21	-20	-03	43	-43	06	57
	20.	25	10	04	10	-09	-06	-35	04	22
	21.	16	11	21	-06	04	04	-38	17	26
	22.	26	02	-02	-08	-15	17	-05	-07	41
	23.	17	-08	55	-15	05	01	-18	16	42
	24.	35	18	12	13	00	18	-31	-20	35
	25.	21	04	02	04	-16	11	-41	04	25
	26.	12	11	20	01	01	22	-28	-20	23
INTIMACY	27.	02	11	53	13	-01	20	09	03	36
	28.	04	13	62	10	-06	16	07	02	45
	29.	-05	06	52	-02	01	12	-10	-03	31
	30.	04	-20	59	05	-05	-14	-09	-01	42
	31.	09	-19	50	-09	02	-02	-10	07	31
	32.	04	01	22	18	02	46	-07	12	31
	-33.	-05	-00	-15	-06	13	-17	-26	-25	21

Table 1
(Continued)

ROTATED ITEM FACTOR MATRIX

		I	II	III	IV	V	VI	VII	VIII	h^2
ALOOFNESS	34.	-00	00	-06	33	16	01	-22	-33	30
	35.	-29	-16	-01	27	05	-23	-18	-26	33
	36.	10	12	-08	37	07	05	-14	-35	32
	37.	05	-15	22	02	-04	-24	00	-38	28
	38.	00	02	-12	-12	12	02	02	-54	34
	39.	06	-26	09	03	04	-11	-11	-12	12
	40.	29	04	14	05	-04	15	-22	-21	23
	-41.	03	-05	-18	05	-14	42	-26	10	32
PRODUCTION EMPHASIS	-42.	24	00	00	31	-04	28	-14	15	27
	43.	-03	-08	-00	58	01	-05	14	-01	36
	44.	-06	07	05	54	09	04	14	-02	33
	45.	20	-08	-05	47	-05	30	-19	-05	40
	46.	12	-16	06	54	12	05	-17	06	38
	47.	21	-01	-06	37	05	31	-20	-05	32
	48.	11	-02	05	23	02	-04	-37	04	21
	49.	-20	-39	11	21	19	04	-10	16	31
THRUST	50.	74	06	10	-06	-09	23	03	-02	63
	51.	70	05	-00	10	01	11	-12	07	54
	52.	72	09	04	-04	-01	12	-17	03	58
	53.	60	10	-03	07	-09	04	-06	-06	40
	54.	64	02	07	05	01	17	-20	14	50
	55.	49	-06	07	00	-01	-04	-27	00	32
	56.	41	09	02	19	02	07	-11	-02	23
	57.	51	-03	-02	07	06	29	-24	08	42
CONSIDERATION	58.	63	11	11	-17	-09	10	-05	-03	47
	59.	20	-09	19	-01	01	51	09	-05	36
	60.	30	-11	35	-10	-01	40	07	-16	43
	61.	21	-08	-01	15	06	52	-04	03	35
	62.	26	-08	08	09	03	38	-00	-11	25
	63.	06	01	15	-18	01	29	-15	-03	17
	64.	32	-12	-04	-02	-17	37	-07	04	29
Eigenvalue ^a		8.15	3.79	2.60	2.05	1.82	1.62	1.47	1.44	
Cumulative Proportion of Total Variance		.24	.35	.42	.48	.53	.58	.62	.67	

^aThese values were computed from the original unrotated factors.

But this strategy gave us a further advantage. By increasing our information about the consistency with which the items had been assigned to the respective subtests, we now were able to act more confidently in identifying the "new" or more "general" factors which emerged when we subsequently analyzed the relationship among the subtest scores.

III. THE ANALYSIS OF THE EIGHT SUBTEST SCORES OF THE OCDQ

In the first phase of constructing the OCDQ we had endeavored to select the "best" and the most catholic array of items that would tap the full range of social behaviors which occur among members of elementary-school faculties. We ruthlessly screened these items in respect to content and also screened them statistically in respect to their discriminative power and their relationship to each other. Then, by means of iterative cluster analyses and factor analyses, we identified eight relatively "independent" dimensions which we chose to use as indices of the Organizational Climate of a school. We assigned the items which composed each of these dimensions to a separate subtest of the OCDQ.

Thus far, we had analyzed the data entirely at the item level. The next step was to cumulate the responses for the separate items into eight subtest scores, and then analyze these data at the subtest level. We were satisfied that each of the eight subtests measured a relatively "independent" facet of social behavior within the school, and we were confident, too, that the eight subtests which we had chosen from those eighteen factors yielding eigenvalues above 1.00 were meaningful not only in terms of factorial criteria but also in that they were consonant both with "common sense" and with current knowledge about organizational theory.

To compute each respondent's eight subtest scores, we simply summed his item scores, subtest by subtest, and divided each of the eight sums by the corresponding number of items in the subtest. We then rounded off each quotient to a two-digit score for each subtest. This procedure gave us eight subtest scores for each of the 1151 respondents.

We computed the mean and the standard deviation for each subtest (summing across all 1151 respondents), and converted these raw scores into standard scores, with a mean of 50 and a standard deviation of 10. We now had eight standard scores for each respondent. These scores have been divided into two groups: the first four scores describe the teachers' behavior; the second four, the principal's behavior--as it is perceived by the teachers. The intercorrelations among these eight scores are presented in Table 2. (It is important to note that the first set of correlations, as shown in Appendix C, was computed at the item level, whereas the correlations shown in Table 2 were computed at the subtest level.)

At this point we should note that whenever one constructs a battery of tests, one must be concerned with three standards: (1) that each test measures a relatively different "thing," or type of behavior; (2) that the battery, as a whole, taps enough common behavior to permit the investigator to describe the pattern in terms of a few, more "general" factors (i.e., fewer, certainly than the number of subtests); and (3) that the "general" factors which he extracts for a particular domain of inquiry are not discordant with those which previously have been reported in the literature.

But before we report the results of factor analyzing the OCDQ subtests, let us first state what is meant by a factor loading, and outline the procedure which we used to identify the "factors" measured by the OCDQ battery of eight subtests. The loading (i.e., the numerical value, expressed as a correlation) which a given subtest receives on a particular factor shows to what extent that subtest measures the same type of behavior as is represented in a more general form by the factor itself. Whenever a subtest yields a high loading on a given factor, be it either positive or negative, that subtest can be viewed as a "good" measure of the factor.

Table 2

**CORRELATIONS BETWEEN EIGHT SUBTEST SCORES
OF THE OCDQ, FORM IV, 64 ITEMS (N=1151)**

		I	II	III	IV	V	VI	VII	VIII
Teachers' Behavior	1. Disengagement	1.00	.27	-.36	.00	.18	.17	-.22	.04
	2. Hindrance		1.00	-.32	-.07	.15	.08	-.25	-.15
	3. Esprit			1.00	.31	-.09	.12	.60	.42
	4. Intimacy				1.00	-.06	.11	.18	.31
Principal's Behavior	5. Aloofness					1.00	.13	-.07	-.10
	6. Production Emphasis						1.00	.17	.19
	7. Thrust							1.00	.49
	8. Consideration								1.00

Contrariwise, if a subtest secures only a zero loading on a factor, then that subtest obviously is not measuring the same thing as the factor presumably is measuring. In other words, the loadings tell us to what degree each subtest is saturated with each of the factors.

When one examines, across factors, the pattern of loadings on each of several factors, one finds that several of the subtests (i.e., dimensions) load high on only one factor, whereas other subtests load high on several factors. Naturally, the most readily identifiable factor patterns are those in which groups (or clusters) of subtests load high on one factor yet yield close to zero loadings on the other factors. In examining the content of those subtests which do load high on a given factor, the investigator's task is to determine in what fundamental way these particular subtests are conceptually alike. He then must name this similarity; thus does he "create" the concept denoted by the factor.

To proceed then, we factored the intercorrelations among the eight subtest scores. Here again, we used a principal-components method of analysis. The unrotated factor-loadings and the corresponding eigenvalues for each of the eight factors, together with the estimates of variance attributed to each factor, are listed in Table 3. (Again, we followed Kaiser's recommendation and entered a value of 1.00 in the diagonal of the matrix before we computed the factor solution.)

The eigenvalues for the first three factors shown in Table 3 were sufficiently large (approximately 1.00 or higher) to suggest that the "best" factorial solution would be found in either a two, or a three-factor, rotational solution. Our next task, therefore, was to try both the two-factor and the three-factor solutions so that we could then determine which of the two solutions would provide us with a better understanding of the "higher," or the more "general," factors by which all eight of the

Table 3
UNROTATED FACTOR MATRIX FOR EIGHT SUBTESTS,
OCDQ, FORM IV, 64 ITEMS (N=1151)

	I	II	III	IV	V	VI	VII	VIII	h^2
1. Disengagement	-.40	.65	-.27	-.07	-.47	-.09	-.32	.10	1.00
2. Hindrance	-.49	.42	.14	-.08	.63	-.40	-.03	.04	1.00
3. Esprit	.84	-.03	.17	.09	.14	-.05	-.22	.44	1.00
4. Intimacy	.46	.30	-.48	.60	.16	.24	-.04	-.13	1.00
5. Aloofness	-.23	.44	.69	.49	-.11	-.14	.10	-.02	1.00
6. Production Emphasis	.19	.67	.22	-.38	.18	.54	.07	.00	1.00
7. Thrust	.79	.10	.21	-.19	.01	-.27	-.28	-.37	1.00
8. Familiarity	.67	.37	-.22	-.12	-.22	-.32	.43	.06	1.00
Eigenvalue	2.5	1.5	.97	.82	.75	.72	.43	.36	
% Variance	.31	.19	.12	.10	.09	.09	.05	.05	$\Sigma=100$

subtests could be defined. In short, the purpose of this effort was to describe the composition of each of the subtests in terms of the smallest number of higher-order concepts (in other words, factors) which would, at the same time, yield maximum additional information about the "psychological" composition of each of the eight subtests.⁴⁰

Now, let us look at both rotational solutions and see which helps us to interpret more incisively the various possible patterns of subtest scores.

The Two-Factor Rotational Solution

The two-factor varimax rotational solution for the eight OCDQ subtests is given in Table 4. Note that Intimacy and Consideration load solely upon Factor I, while Disengagement and Aloofness load only on Factor II. We have observed earlier that Intimacy and Consideration both describe social-needs oriented behavior; in the case of Intimacy, satisfaction is derived from group membership, whereas Consideration can be construed as emanating from the leader. Moreover, Disengagement and Aloofness both depict behavior which is primarily task-oriented, and which therefore is related to a form of social control.⁴¹ Accordingly, we have named Factor I "Social Needs" and Factor II "Social Control."

In a crude way, most of the social behavior which occurs in an organization can be classified either as oriented to social needs, or as

⁴⁰One can sometimes push a solution to the point where what emerges is simply one large, general factor. Such a factor meets the requirement of "fewness" of higher-order concepts, but whatever "explanation" we may derive from a single, general factor is likely to give us far less information than we might receive from alternative "explanations" based upon either a two-factor or a three-factor solution.

⁴¹Obviously, the relationship between Disengagement and Social Control is negative.

Table 4

**TWO-FACTOR VARIMAX ROTATIONAL
SOLUTION FOR TOTAL SAMPLE
(N=1151 Respondents)**

<u>OCDQ Subtests</u>		Social Needs	Social Control	h^2
		I	II	
1.	Disengagement	-.06	-.76	.58
2.	Hindrance	-.24	-.60	.42
3.	Esprit	.73	.41	.70
4.	Intimacy	.55	-.06	.30
5.	Aloofness	-.01	-.50	.25
6.	Production Emphasis	.47	-.51	.48
7.	Thrust	.75	.27	.64
8.	Consideration	.77	-.02	.59
Factor Value		2.27	1.69	
% Variance		.28	.22	$\Sigma=.50$

associated with social control. For this reason the two-factor solution is definitely appealing. It allows us to describe the association among the subtests in a way which heeds the factorial data and yet also makes good sense in terms of organizational theory.

All eight subtests are saturated, to at least some degree, with either Social-Control or Social-Needs behavior (or both). Naturally, some of the subtests provide "purer" measures of one of these factors while other subtests reflect different combinations of the behaviors described as Social-Control and Social-Needs.

Let us look now at the first four subtests which describe the group's behavior. Disengagement loads high on Social Control and receives a loading of virtually zero on Social Needs. This pattern of loadings indicates that Disengagement is a relatively "pure" measure of social control and that it is unrelated to social needs. Hindrance obtains its highest loading on the factor of Social Control, but it also secures a moderate loading on Social Needs. We interpret this to mean that Hindrance is primarily social-control oriented, but also is associated--to at least some degree--with social-need satisfaction. (Because the leader overcontrols the teachers, they experience a feeling of high Hindrance.)

Esprit obtains its highest loading on the Social Needs factor. But note, too, that it also obtains a high loading on the Social Control factor. Esprit, therefore, is related to both social needs and social control. Finally, Intimacy loads primarily on the factor of Social Needs and has a loading close to zero on the factor of Social Control. This pattern implies that Intimacy is a relatively "pure" measure of behavior which is oriented to social needs.

Now let us examine briefly the factor pattern for those subtests which describe the leader's behavior. Aloofness seems to provide a

"pure" measure of Social Control. Production Emphasis and Thrust represent measures which contain components of both types of behaviors, while Consideration describes behavior which is, primarily, social-needs oriented.

Thus, from a similar frame of reference we can describe the behavior both of the members of the group and of the leader himself. Moreover, we can indicate--although, perhaps, only crudely--to what degree the behavior measured by each subtest is associated with two high-order concepts: Social-Control and Social-Needs.

In brief, the two-factor solution is helpful. Yet this solution accounts for only 50 per cent of the common variance. Furthermore, some of the communalities (the squared sum of the factor loadings in a row) are rather low. Nonetheless, the factor values (the squared sum of the factor loadings in a column) are clearly above 1.00. This, of course, indicates that both of the factors are "good" factors.

The Three-Factor Rotational Solution

Now let us examine Table 5, the three-factor rotational solution for the scores on the OCDQ subtests, to see how the subtest loadings change when we seek to "explain" these scores according to three independent factors, instead of two.

We may just as well state right now that the three-factor "solution" is the one which provides the "best" description of the factors tapped by the OCDQ. As compared to the two-factor solution, the three-factor solution is more concordant with orthodox procedures for factor analysis. Furthermore, in the three-factor solution, the high communalities found for each of the individual subtests provide estimates--and encouragingly

Table 5

THREE-FACTOR VARIMAX ROTATIONAL SOLUTION
FOR TOTAL TEACHER SAMPLE
(N=1151)

	Social Needs	Esprit	Social Control	h^2
	I	II	III	
1. Disengagement	.20	-.76	.20	.66
2. Hindrance	-.04	-.64	.16	.44
3. Esprit	.47	.70	.11	.73
4. Intimacy	.71	-.06	-.17	.53
5. Aloofness	-.31	-.09	.79	.72
6. Production Emphasis	.35	-.15	.62	.53
7. Thrust	.49	.62	.24	.68
8. Consideration	.78	.17	.06	.64
Factor Value	1.83	1.92	1.18	
% Variance	.23	.24	.15	$\Sigma = .62$

high estimates--of the reliability of the eight subtests.⁴²

Intimacy and Consideration, the key subtests of social-needs orientation, secure high loadings on Factor I. Thus, Factor I indicates to what extent each subtest score is associated with "pure" social needs. So, we again named this factor Social Needs. But the three-factor solution, in contrast to the two-factor one, illuminates the further point that Factor I seems to measure Individual Social Needs. The respondents describe on those subtest items which compose Intimacy and Consideration, their "individual" attitudes toward the organization. Specifically, each person describes his own friendly relations with the group rather than the friendly relations that presumably obtain among the group members. An analysis of the content of these subtest items supports the view that these items are answered primarily from an individual frame of reference.

Esprit and Thrust yield high positive loadings on Factor II, whereas Disengagement and Hindrance yield high negative loadings on this factor. Factor II of this solution thus describes the degree to which each subtest is associated with Esprit. And so, we have named this factor Esprit. In examining those items that compose the subtests which load high on this factor, we note that the respondents are describing the behavior of the group qua group, and not their own "individual" behavior. For this reason we view Esprit as a "group" measure.

Aloofness and Production Emphasis secure the highest loadings on Factor III; these subtests represent the principal's orientation toward directing and controlling the behavior of his teachers. Since the

⁴²For a discussion of communality as an index of reliability, see Benjamin Fruchter, Introduction to Factor Analysis (New York: D. Van Nostrand, 1954) p. 47. The communality represents a lower-bound, or a highly conservative estimate of the reliability.

highest loadings on this factor are secured by those subtests which describe the principal's behavior, we infer that this factor measures social control, as exerted by the principal. Consequently, we have named Factor III Social Control; we treat it as a measure of the principal's behavior.

Scrutiny of the three-factor rotational solution shows that these three measures do, indeed, comprehensively cover the domain: Social Needs is an individual factor; Esprit is a group factor; and Social Control is a leader factor. This, of course, is merely a restatement of the obvious observation that the major components of a school's Organizational Climate are associated with individuals qua individuals, with the group qua group, and with the principal, as the leader.

It will be recalled that at an earlier stage of the study, when we first cluster-analyzed the items, we had posited a fourth category: Procedures. Indeed, we had assigned items to four "procedural" groups: Procedural Acceptance, Procedural Control, Procedural Stability and Procedural Consideration (See Plate I, p. 32). Yet in the process of further analyzing the data, we seemed to have "lost" this category as a category. What happened, however, was this: all the item-clusters which we initially had subsumed under the "Procedure" categories reconstellated themselves into a single subtest: Hindrance. We found that this subtest, in turn, was partitioned into Factor II (Esprit) in particular, and also--but to a far lesser degree--into Factor III (Social Control). Thus, the "loss" of the Procedure category was a "loss" in name only; the major share of the behavior to which this category referred is now accounted for by the high negative loading ($-.64$) of Hindrance on Factor II.

The three general factors of Organizational Climate which we have identified--Social Needs, Esprit, and Social Control--describe the types

of behavior that occur among members of elementary-school faculties. Furthermore, each of the eight subtests reflects a different "saturation" of each of these three major types of behavior. Thus, the three-factor solution provides an effective way of "explaining" the composition of the eight subtests which define the Organizational Climate profiles. Interestingly enough, Kaiser's⁴³ conclusion that the best rotational solution can be obtained by rotating only those factors with eigenvalues above 1.00, proved amazingly applicable to the present study.⁴⁴

We also computed a four, a five, a six, a seven, and an eight-factor rotational solution, but these solutions did not contribute sufficient additional information about our subtests to warrant further exploration. However, the various rotational solutions did indicate to us a perfectly obvious peculiarity of the varimax rotational procedure. Specifically, the varimax rotational procedure tends to maximize the highest loadings on a factor and to minimize the smallest loadings on the same factor. Consequently, as the number of factors to rotate increases, each subtest tends to load on a separate factor. Specifically, if an 8-factor solution is computed for 8 subtests, then each

⁴³Kaiser, op. cit., p. 37.

⁴⁴The eigenvalue of .97 for the third factor in the Unrotated Factor Matrix, Table 3, obviously is close enough to 1.00 to permit us to use the three-factor solution.

subtest will tend to load at 1.00 on the 8 respective factors.⁴⁵

⁴⁵As already noted, we computed two, three, four, five, six, seven and eight-factor solutions. Our experience in rotating factors with eigenvalues less than 1.00 suggested the following conclusion. When one constructs a battery of tests and factor analyzes the data, one is faced with two problems. First, how many different things are we really measuring with the battery of tests? Are they really different enough to warrant our calling them different? This question can be answered by noting how many eigenvalues we secure above 1.00. This eigenvalue index tells us how many different "things" we are dealing with.

The second problem is this: If we are measuring, for example, three different things (as determined by the eigenvalues), in what way is the behavior measured by each subtest in the battery related to these "things"? We can differentiate between those subtests which are saturated with the factor and those which are not. Furthermore, we can state to what degree each of the subtests is saturated with each of the three independent factors. It is this information which defines the factor pattern of the test battery.

More important, when we have identified the correct number of "things" that our 8 subtests are measuring, then by rotating these factors we can reverse our procedure and determine, now, how well our subtests do, indeed, measure what we intended them to measure. We do this by examining how clearly each subtest loads on the one factor, or the two factors, or the three factors, that we "think" it should load upon.

We learned the importance of identifying the correct number of factors when we rotated a greater number of independent factors than were actually present in the battery of tests--at least, as indicated by the eigenvalues (that is, by rotating factors with eigenvalues less than 1.00). Simply, since factor analysis is a statistical way of taxonomizing data, we can state that statistically, we have four, five, six, etc., independent "things" that are being measured by our battery of tests. But in so doing, we may be classifying 8 "things" into a greater number of independent classes than they deserve.

When we try to explain our battery in terms of greater number of independent factors than the battery is actually measuring, then the alleged factors become nonsensical.

This is aptly shown when we ask how we can best classify 8 related subtests. By increasing the number of factors, we can eventually obtain a separate factor for each subtest. In doing this, we force an answer to an absurd question. And the answer itself becomes absurd: the best way to classify 8 things is in 8 ways.

Now let us seek to relate the three general factors which we have delineated in the OCDQ to other factors already reported in the literature. Schutz⁴⁶ has identified in the FIRD tests three factors of interpersonal needs which seem to parallel the three factors which we have identified in the OCDQ. They are Affection, Inclusion, and Control.

Affection is defined as behavior directed toward the satisfaction of the interpersonal need for affection, and refers to behavior characterized by the following terms: "like," "personal," "friendship," and contrariwise, by such terms as "dislike," "cool," and "emotionally distant."

Control is defined as behavior directed toward the satisfaction of the interpersonal need for control, and refers to behavior that connotes "dominance," "authority," "rules," and contrariwise, by such terms as "rebellion," "resistance," and "submission."

Inclusion is defined as behavior directed toward the satisfaction of the interpersonal need for inclusion, and refers to behavior that connotes "belonging," "communication," "togetherness," and contrariwise, by behavior described as "isolated," "lonely," "ignored" and "excluded."

The factor which we have identified as Social Needs corresponds to Schutz's Affection. Social Control is similar to the Control factor which Schutz has described. However, there is an important difference between the OCDQ factor of Esprit and Schutz's factor of Inclusion. Esprit reflects the interaction between the group and the leader,

⁴⁶Schutz, op.cit.

whereas Inclusion seems to describe primarily a measure of interaction within the group. We surmise that if we were to analyze the data for second-order factors, we would find that all the eight subtests probably could be "explained" in terms of one general factor--Esprit. Such an "explanation" at first blush would appear to represent a return to a unidimensional conceptualization of "morale." But this is not quite true. Refined of its common variance with Factors I and III, Esprit connotes something more highly specific than what normally has been construed as "morale"; Esprit seems to measure the "genuineness" of the relationship between the group and its leader, the principal. The term "genuineness," as used in this context, requires comment; it describes that condition under which the group feels that the principal's behavior is "for real." "For realness" refers to the leader's integrity in the most fundamental meaning of the term: Is he all of a piece? Are the verbal messages which he transmits to others concordant with his non-verbal behavior? Or do the group members feel that he transmits a great many "mixed messages"⁴⁷ in that what he says and what he does do not appear to coincide? Does he seem to stand for something? Or is he a willow bent by each passing breeze?

In our judgment, Inclusion can be described equally well in terms of a combination of Control and Affection, or--to use our nomenclature--in terms of Social Control and Social Needs.

Let us examine the part that Social Control and Social Needs play

⁴⁷For a discussion of "mixed messages," see Andrew W. Halpin, "The Eloquence of Behavior," unpublished paper presented October 29, 1959, as one of the "Thursday Lectures" at the University of Utah.

in an organization. For the most part, the exercise of Social Control is assigned as one of the major responsibilities of the principal; it represents his behavior in directing and controlling the activities of the group in order to accomplish the organization's goals. The group may perceive this control as behavior which "includes" the group ("democratic" control) or as behavior which "excludes" the group ("autocratic" control). Thus, each group member may feel either included or not included, according to how he perceives the processes by which the organization makes decisions.

On the whole, Social Needs describes the behavior of individuals directed toward the satisfaction of their own individual needs, or toward the establishment of positive social relations with others (i.e., friendship). In a social organization the principal can facilitate the formation of friendly relations among the members of the organization, and he himself can act also in a friendly fashion toward the members. According to how he behaves, the individual members of the organization will perceive that they are either "included" in the social interaction of the organization--that they do, indeed, possess and maintain satisfying friendships with others--or that they are "excluded" from the social life of the organization. Thus, "inclusion" is a function of both Control and Affection.

We conclude that the three factors of social interaction which occur in an elementary school are, indeed, similar to the factors delineated by Schutz and described as basic factors in all social interaction. It therefore appears that the specific findings which we have noted, in the school situation, can probably be generalized to

other organizations as well.

Before we proceed to discuss the profile scores, let us first comment on the reliability of the subtests, and then re-state our reasons for conducting the factor analyses, as we have, at two different levels: the item level and the subtest level.

First, let us consider the question of subtest reliability--or, if you will--"equivalence."

During this first phase of the research we were concerned less with subtest reliability than with first identifying a set of subtests which would succinctly and "usefully" depict the Organizational Climate of elementary schools. We knew that we could, in a later study, lengthen each subtest and thereby increase its reliability. Inasmuch as our primary purpose was to map the domain of the Organizational Climate, we decided that it would have been infeasible--at least during this first stage of the game--to have asked the respondents to describe their respective schools twice, solely in order to give us the data necessary for estimating test-retest reliabilities. But even had we been gauche enough to have presumed upon the faculties to do this, what time interval should we have set between the "test" and the "retest"? We certainly did not know; nor do we know now. In short, the exigencies of this first phase of the study precluded our estimating the "temporal" reliability of the subtests.

Nonetheless, we could use three other ways to estimate coefficients of internal consistency and coefficients of equivalence⁴⁸

⁴⁸ Lee J. Cronbach, "Test 'Reliability': Its Meaning and Determination," Psychometrika, Vol. 12, 1947, 1-16.

(i.e., reliability) for each subtest. The least applicable estimate would be that secured from the split-half reliability, corrected, of course, by the Spearman-Brown prophecy formula. We simply did not have enough items in each subtest to allow us to rely too heavily upon these estimates. Since we were more focally concerned with the dependability of the group's perception of the school's Organizational Climate, a second and a more appropriate method was to compute the correlation, subtest by subtest, between the description of the Climate given by the odd-numbered teachers and that given by the even-numbered teachers. A third estimate--and perhaps the most pertinent--could be secured from the test score communalities that were computed from the three-factor rotational solution for the eight subtests. (High communality can result only when there is equivalence, or adequacy, of item sampling; hence, the communality can be interpreted as a "coefficient of equivalence.")

In Table 6 we have summarized, for each of the eight subtests, the estimates of equivalence, according to each of the three methods cited above: split-half, split-respondents, and the communalities yielded by the three-factor rotational solution.

These estimates of the dependability of the subtest scores--and especially the estimates derived from the communalities--seem satisfactory for the present, exploratory phase of this research. In short, we have chosen to evaluate these equivalence estimates with full recognition of a simple fact: a test may possess low "reliability"; yet if all its non-error variance is shared in common with the variance of other variables, the correlations between the test and other "external"

Table 6

**ESTIMATES OF INTERNAL CONSISTENCY AND OF
EQUIVALENCE FOR THE EIGHT OCDQ SUBTESTS**

	Split-half Coefficient of Reliability, Corrected by the Spearman-Brown Formula. ^a (N = 1151)	Correlation between Scores of the Odd- Numbered and the Even-Numbered Respondents in Each school. ^b (N = 71)	Communality Estimates ^c for Three-Factor Rotational Solution. (N = 1151)
1. Disengagement	.73	.59	.66
2. Hindrance	.68	.54	.44
3. Esprit	.75	.61	.73
4. Intimacy	.60	.49	.53
5. Aloofness	.26	.76	.72
6. Production Emphasis	.55	.73	.53
7. Thrust	.84	.75	.68
8. Consideration	.59	.63	.64

^aEstimate of internal consistency.

^bEstimate of equivalence.

^cThese are lower-bound, conservative estimates of equivalence.

measures can nonetheless be substantial, and hence, in this sense, the test can possess high predictive "validity."

Now, let us restate our reasons for conducting the factor analyses at both the item and the subtest level.

The correlations among the OCDQ subtests showed that we had struck a good balance between a set of highly related subtests--where all the subtests correlate positively and significantly with each other--and a set of virtually unrelated subtests which fail to achieve significant correlations with each other. Under the first condition we would have been restricted to measuring--with a high degree of reliability, of course--what would be, in essence, only one "thing." Under the second condition, we would have measured--admittedly, with less reliability--eight totally independent "things." These "things" would be so independent that we would possess only minimal information about the way in which any one co-varied with any other. What we have just stated is, of course, the basic issue of over-generalization versus over-specification.

If we had been at a stage where we were concerned primarily with predicting the relationship between the OCDQ subtest scores and "external" criteria, then we might have been tempted to lean toward a "solution" which would yield a set of clearly independent measures (i.e., eight highly independent subtests--independent, indeed, even to the point of overspecification). But since our purpose in the present phase of the project was to describe Organizational Climates, stark independence among the subtests would be a disadvantage for us because we would then possess only limited information about what each of the subtests was actually measuring. So, we tried to steer a course between Scylla and Charybdis; we sought to construct

an interpretable battery of subtests. For such a battery to be interpretable we would have to select subtests which shared a modicum of communality. Furthermore, we very deliberately wanted to develop subtests which would allow us to interpret the relationship between measures of the group's behavior and measures of the leader's behavior. In other words, we wanted to be able to view both the group members' behavior and the leader's behavior from the same vantage, and to do this in terms of dimensions which would be analogous enough to enable us, in each instance, to estimate to what extent each of the two "general" factors, Social Needs and Social Control, was operative.

The item factor analysis of the subtests showed that each subtest was relatively independent of the other seven. This was important for the construction of a battery of subtests, for the very concept of a "battery" is meaningless unless each part of the battery does, in fact, tap a different segment of the range of behavior to be explored. Yet we did not want to become so obsessive about establishing independence among the subtests that we would find ourselves confronted with what can be described metaphorically as a randomly scattered set of pebbles on the beach. We also wanted to know where each pebble was in respect to the others, and we wanted to know, too, on what beach they were scattered. Why? Because we intended later to construct a profile of each school's Organizational Climate, and we recognized that it would be foolhardy to draw such a profile unless we could be confident that the points which defined the profile were comparable in that they could be scaled from the same base. In brief, to depict the Organizational Climate, we needed to know the degree to which the behavior

defined by each of the eight subtests characterized a given school, and to what extent this characterization of any one school compared with the characterization of the total sample of 71 schools.

To reiterate: the analysis at the item level had identified the eight most pertinent dimensions of Organizational Climates, while the analysis at the subtest level had identified the "higher," or the more "general" components, of all eight of the subtests. Stated somewhat differently, in the item analysis we had concentrated upon "independence" and specificity, while in the subtest analysis we had sought to identify the most dependable, "higher-order" abstractions which could be delineated within the total set of subtests--in spite of such independence as did obtain among them.

We knew by now that the eight subtests of the OCDQ could, in fact, be viewed as a battery of tests, and that the information secured from this battery could be articulated into the present corpus of knowledge about organizational theory.

To this point, in constructing and testing the OCDQ, we had been concerned with the analysis of items and subtests and with the responses of individual respondents. But our major purpose in the study was to describe the Organizational Climate of schools as perceived by their respective staffs. In other words, thus far we had been dealing with eight separate subtests and with the answers given by 1151 individual respondents. Now, we needed to shift our "set." Hence, in Section IV, we will show how this battery can be used to describe what is going on in a school. We will deal with the OCDQ as a test battery and will move from the individual level of response to the consensual description of each school by its respective staff.

IV. THE ANALYSIS OF THE SCHOOL PROFILE SCORES

In the preceding section we have noted that most of the social interactions which occur among faculty members can be defined in terms of eight subtests which, in turn, can be "explained" in respect to three components, or "higher-order" factors: Social Needs, Esprit and Social Control. These three factors furnish a point of reference from which we can view the behavior of both the leader and the group members. The scores on the eight OCDQ subtests permit us not alone to describe what the principal "does," but to make inferences about the relationship between what he "does" and what "occurs" among the group members.

In Section II we have analyzed the data at the item level, and in Section III we have analyzed them at the subtest level. Now we will report the analysis at the school level. For each school we constructed a profile whose points were defined by the eight subtest scores. We then analyzed the 71 profiles (one, of course, for each school) to determine whether the profiles, themselves, constellated into differentiable clusters. By applying the Q-technique of factor-analysis⁴⁹ to the 71 profiles we found that we could, indeed, classify them into six major clusters, each of which depicts a different type of Organizational Climate.

How, then, did we identify these six major "Climates"? We will report this process in four steps:

⁴⁹The Q-technique is used to factor-analyze a matrix of intercorrelations among profile scores (to correlate the profile scores of individuals or, as in the present instance, of individual schools). The factor loadings for each school indicate the degree to which the school-profile possesses the attribute measured by each factor. We could have used the R-technique of factor analysis, which describes the factors in terms of the subtests, and could have then computed the factor scores for each school, but instead, we chose to use a Q factor analysis because the statistical computations required by this method are far less laborious than those demanded by the R-technique.

- Step 1. We constructed school-profiles based upon the raw scores on the eight subtests of the OCDQ, and then converted these raw scores into standardized scores which we standardized in two ways: normatively and ipsatively.
- Step 2. We factor-analyzed the 71 school-profiles, extracted three profile factors, found six major patterns of factor loadings among the profiles, and then categorized each school-profile in respect to one of these six sets (i.e., patterns).
- Step 3. For each of the six sets of school-profiles we computed the mean-profile for those profiles within the set which were distinguished by a high loading on only one of the three profile-factors. We designated these six profiles as prototypic profiles and have defined the six Organizational Climates in terms of these six prototypes.
- Step 4. We ranked these six Organizational Climates in respect to Openness versus Closedness and then used the content of the subtest items (and, of course, the prototypic scores for each of the eight subtests) to describe, for each climate, the behavior which characterizes the principal and the teachers.

These four steps, then, will constitute the first part of the present section. In the second part we will report how we classified the 71 school-profiles in respect to the six climates, and in the third part we will discuss the profile-factor loadings and will explain how we "named" these profile-factors.

In reporting our procedure, we have been forced to reverse the usual order of presentation. Why? Because we could not "identify" the three profile-factors which we used to differentiate the school-profiles into

sets until we first had adduced the salient attribute of each set of school-profiles. Only then could we return to the factors and use this additional information to identify what the profile-factors were, indeed, measuring.

To paraphrase what we have just said: we first used the three profile-factors to sort the school-profiles into the six Organizational Climates. But at this initial stage we had to use the three profile-factors without knowing precisely what three axes of reference these factors defined. In short, we used the numbers (i.e., the loadings) without, as yet, having attached names to the factors. Not until later, after we had analyzed the behavior which characterized each climate, were we prepared to attach names to the three profile-factors which we had used initially to sort the schools in respect to their Organizational Climates.

Now, let us proceed to the first part of our discussion of the school-profiles.

²⁰The procedure for converting raw scores to decile-standardized scores is described in Appendix B.

THE DEVELOPMENT AND DESCRIPTION OF THE SIX ORGANIZATIONAL CLIMATES

Step 1: The Construction and Standardization of the School Profiles.

To construct the school profiles, we first computed, school by school, a school-mean subtest score for each of the 8 subtests. These scores define the "average" response of the teachers for each respective subtest. Hence, the profile of scores shows how most of the teachers in a school characterize the Organizational Climate of their particular school. Specifically, the scores indicate how often certain types of behavior "occur" among the teachers and with the principal.

The 71 profiles, at this stage, had been expressed in terms of "raw" scores. The next step was to convert these raw scores into standard scores and to plot each profile in standard scores. Since we planned to intercorrelate the profile scores among the schools (using the Q-technique), it behooved us to standardize the scores for each school twice: first, normatively, and second, ipsatively.

Normatively, we standardized the subtest scores across the sample of 71 schools so that we could compare each of the 8 subtest scores on a common scale. Thus, each subtest was standardized according to the mean and standard deviation of the total sample for that subtest.

Then we took these standardized scores and standardized them again, this time, ipsatively. Accordingly, all the subtest scores were standardized with respect to the mean and standard deviation of the profile scores for each school.

For both standardization procedures we chose a standard-score system⁵⁰ based upon a mean of 50 and a standard deviation of 10.

⁵⁰The procedure for converting raw scores to double-standardized scores is described in Appendix B.

These standardized scores now told us two things. We knew that a score above 50 on a particular subtest, for example, indicated, first, that the given school scored above the mean of the sample on that subtest, and second, that the score on that subtest was above the mean of the school's other subtest scores. The converse, of course, applied to scores below 50. The distribution of the school-mean standard scores is presented in Appendix E.

By standardizing the raw scores both normatively and ipsatively we had approximated a double-centered matrix.⁵¹ This double standardization technique allows us to examine the relationship between the scores on the subtests, with the differences among the means of the subtest scores for each school in the sample held statistically constant. In short, the inter-school variance and the intra-school variance are not confounded.⁵²

Step 2: The Factor Analysis and the Delineation of Six Sets of School-Profiles.

With the OCDQ scores appropriately standardized, we next computed the intercorrelations among the school-profiles and factor-analyzed this matrix. Because we had found in the previous R factor analyses at the subtest level (Section III) that the eight subtests seemed to be measuring

⁵¹Where scores have been standardized both ipsatively and normatively, we can expect to obtain transposable factors when we factor-analyze with both the R-technique and the Q-technique. Broverman discusses the results of applying both the R and the Q techniques to the same data. See Donald M. Broverman, Psychological Review, Vol. 68 (1961), 68-80

⁵²An exciting exposition of the limitations of the R technique of factor analysis in adequately "controlling" the confounding of inter-individual and intra-individual sources of variance is presented by Donald M. Broverman, "Normative and Ipsative Measurement in Psychology," Psychological Review, in press.

three "things," we rotated three factors, using the Q factor analysis.⁵³

Now, to see whether the school-profiles constellated into differentiable clusters, our first task was to categorize similar profiles into groups. We suspected that the factor loadings would help us achieve this end. So we examined the factor matrix and noted that some of the 71 profiles secured either high positive loadings or high negative loadings primarily on only one of the three profile factors.⁵⁴ Hence, we separated these school-profiles into six sets: two sets for each factor; one set obtained a high positive loading on the factor; the other, a high negative loading on the same factor.⁵⁵ We have presented this matrix in Table 7. For the sake of clarity, we have listed the profiles in six sets, defined by the similarity among the factor loadings within each set.⁵⁶

Step 3: The Specification of Six Prototypic Profiles.

The next task was to compute for each of the six sets of school-profiles a single prototypic profile⁵⁷--or a specified set of eight subtest scores--which would best depict those schools whose profiles we had

⁵³We also computed an R-technique factor analysis of the school profile-scores and found that three factors accounted for the major portion of the common variance of the test battery. The three-factor rotational solution for this matrix is presented in Appendix F.

⁵⁴As we have noted earlier, in order to keep the line of presentation "clear" we will not discuss the "meaning" of the factor loadings at this point; we will deal with this point later.

⁵⁵We temporarily put aside those school-profiles which were marked by high loadings on two or more factors.

⁵⁶Later, at Step 4, we will show how we named the six sets of profiles.

⁵⁷The term "prototypic" implies nothing exemplary; it merely describes the central tendency of the scores within each of the six sets for those schools which secured high loadings on but a single profile-factor.

Table 7

THREE-FACTOR ROTATION FOR SCHOOL-PROFILE SCORES
(N = 71)

School Number	I	II	III	η^2
Open Climate				
*69 ^a	91	19	20	91
*45	87	25	-02	82
*6	87	17	11	80
15	78	53	25	95
*33	87	14	-22	83
12	74	35	01	67
31	74	57	01	88
38	62	46	07	60
46	70	32	40	75
*26	68	-12	22	52
50	65	30	-33	63
64	60	03	-39	51
4	65	-35	-18	57
60	63	-44	-47	81
70	73	01	13	55
9	73	-58	13	89
41	49	-09	14	27
Autonomous Climate				
*22	47	22	81	93
*25	35	25	88	97
*20	43	01	85	91
*16	28	31	87	93
*21	01	28	74	63
23	46	27	62	68
24	-21	-42	78	83
19	01	23	66	49
18	-17	32	55	45
Controlled Climate				
*8	11	-91	-11	87
*32	-12	-87	-29	86
*5	18	-92	-25	95
28	58	-71	11	86
7	-34	-78	28	80
*66	17	-67	49	72
1	-29	-66	-03	52
2	-28	-48	-01	31
3	-02	-49	-01	24
65	-37	-49	22	42
34	-11	-40	-22	22
44	-11	-49	20	29

Table 7 (Cont.)

THREE-FACTOR ROTATION FOR SCHOOL-PROFILE SCORES
(N = 71)

School Number	I	II	III	λ^2
Familiar Climate				
*37	21	87	08	81
*13	02	90	03	81
*39	-10	80	-07	64
*55	31	79	06	72
61	-07	41	-04	17
53	-32	58	-32	55
Paternal Climate				
*51	-20	55	-68	81
*49	-50	42	-63	83
27	-44	58	-52	81
*62	-08	-45	-73	74
*68	10	27	-70	58
71	-50	51	-51	76
54	38	27	-68	68
52	43	27	-64	67
57	-05	-51	-83	96
59	10	-16	-57	37
48	-04	08	-36	14
42	31	-44	-60	65
Closed Climate				
*58	-88	21	-39	97
*56	-83	26	06	76
*47	-83	03	15	72
*63	-86	09	21	79
30	-84	-43	-12	89
35	-76	-14	-41	76
*36	-75	36	-26	77
14	-70	-19	16	55
67	-67	37	05	58
*10	-70	-26	-04	57
40	-61	35	-06	51
17	-68	-30	45	76
29	-67	-54	-25	80
43	-42	-11	47	41
11	-25	-54	-16	39
Eigenvalue	20.9	14.6	12.2	
% of Variance	29	21	17	$\Sigma = 67\%$

*The asterisk indicates those "key" profiles which we used in computing the "prototypic" profiles shown in Table 8.

classified within each set. We simply computed the average score, subtest by subtest, for those school-profiles within each set which were distinguished by a high loading on only one factor. These scores, presented in Table 8, represent the best estimate of the prototypic profile for each set.

Step 4: The Six Organizational Climates of Schools.

These prototypes can be viewed as descriptions of six different "Organizational Climates," which we have named and ranked in order from "Open" to "Closed." As we already have noted in Section I of this report, our decision to rank the climates on the Open vs. Closed continuum was determined, in part, by Rokeach's work on The Open and Closed Mind.⁵⁸ Even as one can regard minds as open or closed, so can we view Organizational Climates as Open or Closed. Nor does our conceptualization differ very much, in essence, from Lewin's⁵⁹ hypothesis about the structure of "mind." To use Lewin's terms, we can describe the Open Climate as marked by functional flexibility, and the Closed Climate as distinguished by functional rigidity.

The ranking of the climates on Openness roughly parallels the scores which the schools receive on Esprit, the best single indicator of "morale." As we trace the loadings on Esprit through the six climates, we note that these loadings become increasingly smaller as we move from the more "open" to the more "closed" climates. We therefore have chosen to regard Esprit as the "key" subtest for describing a school's Organizational Climate.

⁵⁸Rokeach, op. cit.

⁵⁹Lewin, op. cit.

Table 8

PROTOTYPIC PROFILES^a FOR SIX ORGANIZATIONAL CLIMATES RANKED
IN RESPECT TO OPENNESS VS. CLOSEDNESS

Climates	Group's Characteristics				Leader's Characteristics			
	Disengage- ment	Hindrance	Esprit	Intimacy	Alloofness	Production Emphasis	Thrust	Consideration
Open	43 ^b	43	63	50	42	43	61	55
Autonomous	40	41	55	62	61	39	53	50
Controlled	38	57	54	40	55	63	51	45
Familiar	60	42	50	58	44	37	52	59
Paternal	65	46	45	46	38	55	51	55
Closed	62	53	38	54	55	54	41	44

^aThese profiles are based solely on those schools in the sample which secured a high loading on only one profile-factor.

^bThe numbers represent double-standardized scores (both normatively and ipsatively), with a mean of 50 and a standard deviation of 10.

We infer that high Esprit reflects an "effective" balance between task-accomplishment and social-needs satisfaction.⁶⁰

If we should choose to deal with cruder rubrics, we could collapse the six categories into three major groups: the first, composed of the first two, relatively "Open," climates; the second, composed of the third and fourth climates, each of which stresses only one of the two major organizational requirements (group maintenance or task accomplishment); and the third, composed of the fifth and sixth climates, both of which are "Closed." To note this distinction, we have, in Table 8, drawn horizontal double lines at the two points of separation.

Let us now describe, in turn, each of the six Organizational Climates, basing our description upon the content (i.e., the behavior tapped by the items) of each of the eight subtests which constitute the six prototypic profiles.

The Open Climate

The Open Climate depicts a situation in which the members enjoy extremely high Esprit. The teachers work well together without bickering and griping (low Disengagement). They are not burdened by mountains of busy work or by routine reports; the principal's policies facilitate the teachers' accomplishment of their tasks (low Hindrance). On the whole, the group members enjoy friendly relations with each other, but

⁶⁰At this stage of the analysis we used the scores on the Esprit subtest as a basis for ranking the six climates. We chose Esprit because it was the best index to openness that we had available at this point. However, as we will point out at the end of this section, we later found that the teachers' perception of openness does not necessarily coincide with our evaluation (as research investigators) of openness. We discovered later that the pattern of profile-factor loadings provide a better index of openness than do the scores on the single subtest of Esprit.

they apparently feel no need for an extremely high degree of intimacy. The teachers obtain considerable job satisfaction, and are sufficiently motivated to overcome difficulties and frustrations. They possess the incentive to work things out and to keep the organization "moving." Furthermore, the teachers are proud to be associated with their school.

The behavior of the principal represents an appropriate integration between his own personality and the role he is required to play as principal. In this respect his behavior can be viewed as "genuine."⁶¹ Not only does he set an example by working hard himself (high Thrust) but, depending upon the situation, he can either criticize the actions of teachers or can, on the other hand, go out of his way to help a teacher (high Consideration). He possesses the personal flexibility to be "genuine" whether he be required to control and direct the activities of others or be required to show compassion in satisfying the social needs of individual teachers. He has integrity in that he is "all of a piece" and therefore

⁶¹We use the term "genuine" in much the same way as Argyris uses the concept of "Authenticity." Argyris states, "Authentic relationships are, therefore, those relationships in which an individual enhances his sense of self- and other-awareness and acceptance in such a way that others can do the same." (Chris Argyris, Interpersonal Competence and Organizational Effectiveness, Homewood, Illinois: The Dorsey Press, Inc., 1962, p. 21). Likewise, Perlmutter discusses authentic relationships and uses the terms "genuineness" and "authentic" almost interchangeably. (Howard V. Perlmutter, "Person to Person: A Psychological Analysis of Cross-Cultural Relationships," mimeographed, Menninger Foundation, October, 1959. Presented at Yale University, New Haven, Connecticut.) Metaphorically we can differentiate between the "non-genuine" person and the "genuine" one by saying that the "non-genuine" person seems to be two-dimensional, and hence "thin"; whereas, the "genuine" person strikes us as three-dimensional and as a person with depth. The concept of "genuineness" has not as yet been pinned down in precise operational terms, but this is not sufficient reason for dismissing it from our consideration. The words that we use for describing this particular quality of human experience are not, in themselves, important. Essentially this quality of "genuineness" is what the theologian, Buber, refers to in discussing "I-Thou" relationships. (Martin Buber, I and Thou, 2nd ed., New York: Charles Scribner's Sons, 1958.)

can function well in either situation. He is not aloof, nor are the rules and procedures which he sets up inflexible and impersonal. Nonetheless, rules and regulations are adhered to, and through them, he provides subtle direction and control for the teachers. He does not have to emphasize production; nor does he need to monitor the teachers' activities closely, because the teachers do, indeed, produce easily and freely. Nor does he do all the work himself; he has the ability to let appropriate leadership acts emerge from the teachers (low Production Emphasis). Withal, he is in full control of the situation and he clearly provides leadership for the staff.

The Autonomous Climate

The distinguishing feature of this Organizational Climate is the almost complete freedom that the principal gives to teachers to provide their own structures-for-interaction as well as to find ways within the group for satisfying their social needs. As one might surmise, the scores lean slightly more toward social-needs satisfaction than toward task achievement (relatively high scores on Esprit and Intimacy).

When the teachers are together in a task-oriented situation they are "engaged"; they achieve their goals easily and quickly (low Disengagement). There are few minority pressure groups, but whatever stratification does exist among the group members does not prevent the group as a whole from working well together. The essential point is that the teachers do work well together and do accomplish the tasks of the organization.

The teachers are not "hindered" by administrative paper work, and they do not gripe about the reports that they are required to submit. The principal has set up procedures and regulations to facilitate the teachers' task. A teacher does not have to run to the principal every

time he needs supplies, books, projectors, etc.; adequate controls have been established to relieve the principal as well as the teachers of these details (low Hindrance). The morale of the teachers is high, but not as high as in the Open Climate. The high morale probably stems largely from the social-needs satisfaction which the teachers receive. (Esprit would probably be higher if greater task accomplishment also occurred within the organization.)

The principal remains aloof from the teachers, for he runs the organization in a businesslike and a rather impersonal manner (high Aloofness). His leadership style favors the establishment of procedures and regulations which provide guidelines that the teachers can follow; he does not personally check to see that things are getting done. He does not force people to produce, nor does he say that "we should be working harder." Instead, he appears satisfied to let the teachers work at their own speed; he monitors their activities very little (low Production Emphasis). On the whole, he is considerate and he attempts to satisfy the social needs of the teachers as well as most principals do (average Consideration).

The principal provides Thrust for the organization by setting an example and by working hard himself. He has the personal flexibility both to maintain control and to look out for the personal welfare of the teachers. He is genuine and flexible, but his range of administrative behavior, as compared to that of the principal in the Open Climate, is somewhat restricted.

The Controlled Climate

The Controlled Climate is marked, above everything else, by a press for achievement at the expense of social-needs satisfaction. Everyone

"works hard" and there is little time for friendly relations with others or for deviation from established controls and directives. This climate is over-weighted toward task-achievement and away from social-needs satisfaction. Nonetheless, since morale is high (Esprit), this climate can be classified as more "Opened" than "Closed."

The teachers are completely "engaged" in the task. They do not bicker, gripe or differ with the principal's directives. They are there to get the job done, and they expect to be told personally just how to do it (low Disengagement). There is an excessive amount of paper work, routine reports, busy work, and general Hindrance which get in the way of the teachers' task accomplishment. Few procedures have been set up to facilitate their work; in fact, paper work seems to be used to keep them busy (high Hindrance). Accordingly, teachers have little time to establish very friendly social relations with each other, and there is little feeling of camaraderie (low Intimacy). Teachers ordinarily work by themselves and are impersonal with each other. In fact, social isolation is common; there are few genuinely warm relations among the teachers. Esprit, however, is slightly above average. We infer that the job satisfaction found in this climate results primarily from task-accomplishment, not from social-needs satisfaction.

The principal is described as dominating and directive; he allows little flexibility within the organization and he insists that everything be done "his" way (high Production Emphasis). He is somewhat aloof; he prefers to publish directives to indicate how each procedure is to be followed. These directives, of course, are impersonal and are used to standardize the way in which teachers accomplish certain tasks. Essentially, the principal says, "My way of doing it is best and to hell with the way people feel." Means and ends have already been determined; the

principal becomes dogmatic when members of the group do not conform to the outline he has delineated. He cares little about how people "feel"; the important thing is to get the job done, and in his way. Accordingly, he does not seek to satisfy the group's social needs (low Consideration). Nevertheless, he is trying to "move" the organization by working hard (average Thrust) and he personally sees to it that things go "right." He delegates few responsibilities; leadership acts emanate chiefly from himself, rather than from the group. (Surprisingly, it seems that many school faculties actually respond well to this type of militant behavior, and apparently do obtain considerable job satisfaction within this type of climate).

The Familiar Climate

The main feature of this climate is the conspicuously friendly manner of both the principal and the teachers. Social-needs satisfaction is extremely high, while, contrariwise, little is done to control or direct the group's activities toward goal achievement.

The teachers are disengaged and accomplish little in a task-oriented situation, primarily because the principal exerts little control in directing their activities. Also, there are too many people trying to tell others how things should be done (high Disengagement). The principal does not burden the teachers with routine reports; in fact, he makes it as easy as possible for them to work. Procedural helps are available (low Hindrance). The teachers have established personal friendships among themselves, and socially, at least, everyone is part of a big happy family⁶² (high Intimacy).

⁶²As a speculation, we think that this is what happens to an "Autonomous" Climate when the principal fails to exert sufficient control and as the teachers become too friendly.

"Morale," or job satisfaction, is average, but it stems primarily from social-needs satisfaction. In short, the Esprit that is found in this climate is one-sided in that it stems almost entirely from social-needs satisfaction.

The behavioral theme of the principal is essentially, "let's all be a nice happy family"; he evidently is reluctant to be anything other than considerate, lest he may, in his estimation, injure the "happy family" feeling (high Consideration). He wants everybody to know that he, too, is one of the group, that he is in no way different from anybody else. Yet his abdication of social control is accompanied, ironically enough, by high Disengagement on the part of the group.

The principal is not aloof and not impersonal and official in his manner. Few rules and regulations are established as guides to suggest to the teachers how things "should be done" (low Aloofness). The principal does not emphasize production; nor does he do much personally to insure that the teachers are performing their tasks correctly. No one works to full capacity, yet no one is ever "wrong"; nor are the actions of members--at least in respect to task-accomplishment--criticized (low Production Emphasis). In short, little is done either by direct or by indirect means to evaluate or direct the activities of the teachers. However, teachers do attribute Thrust to the principal. But in this context, this probably means that they regard him as a "good guy" who is interested in their welfare and who "looks out for them."

The Paternal Climate

The Paternal Climate is characterized by the "ineffective" attempts of the principal to control the teachers as well as to satisfy their social needs. In our judgment, his behavior is "non-genuine" and is perceived

by the teachers as non-motivating. This climate is, of course, a Closed one.

The teachers do not work well together; they are split into factions. Group maintenance has not been established because of the principal's inability to control the activities of the teachers (high Disengagement). Few Hindrances burden the teachers in the form of routine reports, administrative duties and committee requirements, mainly because the principal does a great deal of this busy work himself (low Hindrance). The teachers do not enjoy friendly relationships with each other (low Intimacy). Essentially, the teachers have given up trying; they let the principal take care of things as best he can. Obviously, low Esprit results when the teachers obtain inadequate satisfaction in respect to both task-accomplishment and social-needs.

The principal, on the other hand, is the very opposite of aloof; he is everywhere at once, scurrying here and there, checking, monitoring and telling people how to do things. In fact, he is so non-aloof that he becomes intrusive. He must know everything that is going on. He is always emphasizing all the things that should be done (Production Emphasis), but somehow nothing does get done. The principal sets up schedules, class changes, etc., personally; he does not let the teachers perform any of these activities. His view is that "Daddy knows best."

The school and his duties within it are the principal's main interest in life; he derives only minimal social-needs satisfaction outside his professional role. He is considerate, but his Consideration appears to be a form of seductive over-solicitousness rather than a genuine concern for the social needs of others. In a sense, he uses this Consideration behavior to satisfy his own social-needs. Although he preserves an average

degree of Thrust, as evidenced by his attempts to move the organization, he nonetheless fails to motivate the teachers, primarily because he, as a human being, does not provide an example, or an ideal, which the teachers care to emulate.

The Closed Climate

The Closed Climate marks a situation in which the group members obtain little satisfaction in respect to either task-achievement or social-needs. In short, the principal is ineffective in directing the activities of the teachers, and at the same time, he is not inclined to look out for their personal welfare. This climate is the most closed and the least "genuine" climate that we have identified.

The teachers are disengaged and do not work well together; consequently, group achievement is minimal (high Disengagement). To secure some sense of achievement, the major outlet for the teachers is to complete a variety of reports and to attend to a host of "housekeeping" duties. The principal does not facilitate the task accomplishment of the teachers (high Hindrance). Esprit is at a nadir, reflecting low job satisfaction in respect to both job satisfaction and social-needs satisfaction. The salient bright spot that appears to keep the teachers in the school is that they do obtain satisfaction from their friendly relations with other teachers (average Intimacy). (We would speculate that the turnover rate for teachers in this climate would be very high unless, of course, the teachers are too old to move readily to another job, or have been "locked into the system" by the attractions of a retirement system.)

The principal is highly aloof and impersonal in controlling and directing the activities of the teachers (high Aloofness). He emphasizes production and frequently says that "We should work harder." He sets up rules and

regulations about how things should be done, and these rules are usually arbitrary (high Production Emphasis). But his words are hollow, because he, himself, possesses little Thrust and he does not motivate the teachers by setting a good personal example. Essentially, what he says and what he does are two different things. For this reason, he is not "genuine" in his actions. He is not concerned with the social needs of teachers; in fact, he can be depicted as Inconsiderate (low Consideration). His cry of "let's work harder" actually means, "You work harder." He expects everyone else to take the initiative, yet he does not give them the freedom required to perform whatever leadership acts are necessary. Moreover, he, himself, does not provide adequate leadership for the group. For this reason the teachers view him as not "genuine"; indeed, they regard him as a "phony." This climate characterizes an organization for which the best prescription is radical surgery.

* * * *

To the question, "Are these really the six Organizational Climates of elementary schools?" we can only say that these are the six that have emerged from our data. We have created these categories of Organizational Climate for heuristic purposes--to see in what ways we could further our knowledge about schools by using this particular method of classifying their organizational Climates.⁶³ The six climates can be conceived as Ideal-types in the sense in which Weber⁶⁴ introduced this term, yet they differ from Weber's Ideal-types in that they have been derived not deductively, but inductively. Likewise, these six climates can be viewed as prototypes, provided that we exclude from this term one of its possible connotations: exemplariness.

⁶³In Appendix G we have shown, for the separate sub-samples from each of the six States, the distribution of the schools in respect to their Organizational Climate.

⁶⁴Weber, op. cit.

THE CLASSIFICATION OF THE 71 SCHOOLS IN RESPECT TO ORGANIZATIONAL CLIMATE

We have now completed our first objective in this section: we have defined the six Organizational Climates of schools. We will now explain how we classified the 71 schools in the sample with respect to these six Organizational Climates.

It will be recalled that when we initially had sought to categorize the school-profiles, we had chosen to deal with only those profiles which obtained a high loading on a single profile-factor. We did this in order to obtain an estimate of each prototype profile. Now, in order to classify those school-profiles which we temporarily had set aside, we compared each of these, in turn, with each of the six prototypic profiles. We used two methods in classifying these profiles. First, we noted on which factor each profile loaded most heavily. But since some of the profiles obtained high loadings on two or three factors, we decided that it would be wise to supplement this one basis of pertinence--the factor loading in respect to one of the factors--with a second basis for categorization: a profile-similarity score that allowed us to determine numerically to what extent each of the 71 school-profiles was congruent with the prototypic profile which characterized each of the six climates. The similarity scores provided the simplest and quickest method for classification; yet the factor loadings tended to be more dependable (i.e., reliable). Why? Because the factor loadings take into account the relative importance of the different subtests in respect to each factor, whereas the similarity scores measure only absolute differences between subtest scores, thus failing to take into account the particular pattern of discrepancy scores (across the eight subtests) which compose a given similarity-score. We obtained a similarity score by computing the absolute difference between each subtest score in a

school's profile and the corresponding score in the first prototypic profile, then in the second one, and so on. Thus, we compared the scores of each school with those of each of the six prototypic profiles. In each instance we computed the sum of the absolute differences between the profile scores. A low sum indicates that the two profiles are highly similar, whereas a large sum shows that the profiles are dissimilar. We assigned each of the 71 schools to the set defined by that prototypic profile for which its profile-similarity score was lowest.

In Table 9 we have presented the profiles for the 71 schools, grouped in respect to profiles which are similar. The profile-similarity scores are shown in the last column, and the schools which depict each climate have been ranked in order from the lowest similarity score (indicating the profile most similar to each respective prototypic climate) to the highest similarity score.⁶⁵

⁶⁵Following the categorization of the total sample of profiles into the six climates we computed an average subtest score for each set of profiles. These mean-scores (or "average" profiles, which are presented in Table 9) and the prototypic profiles in Table 8 do not differ markedly from each other. Accordingly, we interpret this to mean that we have classified each profile appropriately. However, we have chosen to use the prototypic profiles to describe the respective climates, in preference to using the average for all the school profiles within a set, simply because the prototypic profiles represent a clearer estimate of the "ideal" profile for each group. ("Ideal" is used here in the Weberian sense.) Which of these two sets of profiles should be used in a given instance will depend upon the purpose of the analysis. The important point, however, is that both methods of defining the profiles that characterize the respective climates yield patterns which are essentially the same.

Table 9

THE SAMPLE OF 71 SCHOOL PROFILES
GROUPED IN RESPECT TO THE SIX ORGANIZATIONAL CLIMATES

School Number	Disen.	Hindrance	Esprit	Intim.	Aloof.	Prod. Exp.	Thrust	Famil.	Similarity Score
Open Climate									
69	39	45	65	56	40	42	61	52	20
*45	46	45	69	50	38	42	58	54	20
*6	41	42	58	47	47	39	66	59	29
15	44	35	59	56	46	40	60	60	32
*33	42	40	59	43	43	48	60	66	33
*12	46	34	60	55	39	51	65	50	40
31	46	34	61	58	38	48	55	59	41
38	50	44	67	50	44	37	47	63	42
46	52	41	61	40	40	45	56	65	42
*26	44	54	69	46	46	37	58	46	44
50	47	41	47	47	41	47	69	62	45
64	45	45	58	53	31	61	60	47	50
4	36	64	57	50	37	48	59	51	50
60	42	56	56	32	44	50	60	60	54
70	33	53	62	59	39	48	48	58	54
9	33	46	64	40	52	56	59	49	55
41	34	63	56	58	42	42	47	58	62
Mean	42	46	60	49	41	45	58	56	
Autonomous Climate									
*22	38	41	56	61	60	36	58	51	14
*25	41	40	58	63	59	38	55	45	16
*20	36	39	57	58	63	43	56	49	22
*16	42	39	61	65	58	41	47	47	27
*21	42	44	44	61	65	37	50	57	33
23	44	32	57	53	61	41	59	53	35
24	41	46	49	53	70	52	52	37	57
19	44	52	56	71	49	43	45	39	60
18	56	31	58	56	62	51	43	48	64
Mean	42	40	55	60	60	42	51	46	

Table 9 (Cont.)

THE SAMPLE OF 71 SCHOOL PROFILES
GROUPED IN RESPECT TO THE SIX ORGANIZATIONAL CLIMATES

School Number	Disen.	Hindrance	Esprit	Intim.	Aloof.	Prod.Emp.	Thrust	Famil.	Similarity Score
Controlled Climate									
* 8	34	64	50	43	50	63	52	43	26
*32	44	56	50	33	56	67	48	47	28
* 5	42	63	58	33	53	61	54	46	29
28	33	49	63	39	54	59	53	50	35
7	53	58	49	31	58	61	51	41	39
*66	33	46	56	49	62	62	50	42	39
1	48	71	49	38	57	45	46	46	57
2	55	67	54	36	57	41	47	43	61
3	44	67	44	39	58	40	55	55	67
65	48	48	41	48	62	61	59	34	68
34	45	66	62	52	50	49	35	43	73
44	47	69	44	49	44	51	60	37	80
Mean	43	60	51	40	55	55	50	43	
Familiar Climate									
*37	59	46	51	58	40	33	50	62	19
*13	65	36	48	56	48	37	56	56	26
*39	67	45	56	53	45	36	43	56	35
*55	50	39	43	64	43	42	58	61	40
61	56	60	44	62	39	37	58	44	58
53	58	56	37	64	37	47	45	56	62
Mean	59	47	46	59	42	38	51	55	

Table 9 (Cont.)

THE SAMPLE OF 71 SCHOOL PROFILES
GROUPED IN RESPECT TO THE SIX ORGANIZATIONAL CLIMATES

School Number	Disen.	Hindrance	Esprit	Intim.	Aloof.	Prod. Emp.	Thrust	Famil.	Similarity Score
Paternal Climate									
*51	67	42	48	48	37	57	42	59	27
*49	72	44	44	44	44	56	44	53	28
27	73	49	44	49	40	46	50	48	34
*62	63	53	38	45	38	45	56	62	39
*68	61	43	48	48	33	61	60	47	40
71	68	41	41	54	41	61	44	50	41
54	52	41	54	47	33	62	48	62	50
52	47	53	46	50	33	51	52	69	54
57	53	62	47	31	42	60	51	54	55
59	47	66	47	53	31	56	51	49	61
48	48	48	42	61	36	67	52	46	61
42	45	45	50	35	45	68	56	56	63
Mean	58	49	46	47	38	58	51	55	
Closed Climate									
*58	70	51	36	48	51	56	42	46	27
*56	61	52	41	57	56	52	30	51	29
*47	60	62	38	59	54	47	43	36	34
*63	59	58	34	59	58	47	46	40	36
30	56	55	36	44	62	63	42	44	37
35	65	57	37	37	57	52	44	51	39
*36	70	45	45	51	50	57	36	47	42
14	62	46	46	46	55	66	42	37	43
67	63	61	43	62	47	42	40	43	44
*10	53	47	34	50	60	66	46	44	45
40	63	52	34	48	59	40	45	59	49
17	52	48	44	47	72	54	38	45	49
29	56	58	36	36	62	58	49	46	52
43	49	59	56	61	54	49	32	39	64
11	41	72	42	49	49	53	42	52	65
Mean	59	55	40	50	56	53	41	45	

^aThe starred profiles indicate those schools whose scores we averaged in order to depict the prototypic profiles shown in Table 8.

THE THREE PROFILE-FACTORS

We have now completed two of the objectives that we set for this section: (1) we have identified the six Organizational Climates and have described the behavior which characterizes each climate, and (2) we have classified each of the 71 schools in the sample in respect to its Organizational Climate. In order to maintain a sense of line in describing these procedures, we chose to sketch only briefly how the factor analysis of the profiles enabled us to specify the prototypic profiles which we subsequently used to classify the Organizational Climates of the schools in this particular sample. Having identified and named the six Organizational Climates, we now are ready to re-examine the factor pattern of the matrix, and name the three profile-factors.

Before we examine the obtained factor loadings, let us first note what the "perfect" loadings would be in the "ideal" case. These loadings for the "pure" six climates are given in Table 10.

Table 10

FACTOR LOADINGS FOR EACH "IDEAL" CLIMATE

	I	II	III
Open	1.00	.00	.00
Autonomous	.00	.00	1.00
Controlled	.00	-1.00	.00
Familiar	.00	1.00	.00
Paternal	.00	.00	-1.00
Closed	-1.00	.00	.00

The actual loadings on the three factors, for each of the 71 schools, were given in Table 7, and the schools were grouped in respect to their Organizational Climates. Obviously, none of the schools in the sample

secured factor loadings as clear-cut as those depicted in Table 10. Yet many of the schools approximated this "ideal" in that they obtained a high loading on only one of the three factors. But what about those schools whose pattern of factor loadings was not marked by a high loading on but a single factor?

It will be recalled that we had computed the prototype profiles from those school-profiles which loaded most clearly on only one factor. The factor on which each school-profile loaded highest told us to which prototypic profile each school-profile was most similar (taking into account, of course, the sign of the loading). But few taxonomies have clear, razor-edged borders. How, then, should we explain instances in which a high loading on one profile-factor is accompanied by a high loading on a second profile-factor? If a given school-profile shows a substantial loading on a second as well as the first factor, then that school-profile is also similar to the prototypic-profile characterized by the second factor, but to a lesser degree than it is similar to the prototypic profile characterized by the first factor, the one on which the particular school-profile loads highest. To take an example, let us look at the factor loadings for School No. 45.

	I	II	III
School No. 45	.87	.25	-.02

Essentially, School No. 45's climate is an Open Climate (note the very high positive loading on Factor I). But this profile also shows a positive loading on Factor II, which indicates that School 45's profile is also similar, but to a lesser degree, to the profile which depicts the Familiar Climate. (The profile for a Familiar Climate obtains a high positive loading on Factor II.) Since this school's profile shows a nearly

zero loading on Factor III, we also can conclude that those behaviors which typify both the Autonomous and the Paternal Climates are, for the most part, absent in this school. In short, School 45's climate is primarily Open, but it possesses, too, some of the characteristics found in the Familiar Climate.

In sum, the loadings which each school-profile secures on the three profile-factors tell us to what extent a school's climate is similar to each of the prototypic climates. In evaluating the climates it becomes clear to us that the "best" climate is the Open one. To determine how closely a given school's climate approximates the Open Climate we need only compare the school's loadings on the three profile-factors with the "pure" instances illustrated in Table 10 and with the prototypic profiles given in Table 8. We can supplement this basis of comparison by also taking into account the similarity score provided by the difference between a specific school-profile and any one of the six prototypic profiles.

Now that we have described the types of behavior which occur in those schools whose profiles are similar, and have depicted each set of behaviors by a single construct, i.e., the name of the Organizational Climate, we can proceed to use these constructs--the prototypic profiles for the six Organizational Climates--to identify the profile-factors.

It is difficult to select simple and appropriate "names" for those factors which seem to undergird specific test patterns, even when using the R-technique of factor analysis. But there are two reasons why it is even more difficult to name factors which have been extracted by the Q-technique. First, the identification of each factor must take into account the meaning of the subtests which compose the profiles, and second, the identification must be reconciled with the fact that each of the three

profile-factors is defined by two prototypic profiles which are precisely opposite to each other (the one loads positively on the factor, the other, negatively). It is with full recognition of these limitations that we shall attempt to name the three profile-factors.

Let us look at Table 11, in which we present the factor pattern of the matrix that has been reported in Table 7. Note the climates which load highest on Factor I. The Open Climate obtains a high positive loading on this factor; conversely, the Closed Climate obtains a high negative loading on it.

Table 11

THE PATTERN OF PROFILE-FACTOR LOADINGS
FOR EACH OF THE SIX ORGANIZATIONAL CLIMATES

	I	II	III
Open	x ^a		
Autonomous			x
Controlled		x	
Familiar		x	
Paternal			x
Closed	x		

^aThe x indicates the factor on which each Climate scores the highest loading.

Now, let us describe how we have inferred what Factor I measures. By reviewing the way in which the Open and the Closed Climates differ, we can understand better what Factor I represents. The profile for the Open Climate scores high on the subtests of Esprit and Thrust, and low

on Disengagement. These scores describe an energetic, lively organization which is moving toward its goals, but which is also providing satisfaction for the individuals' social needs. Leadership acts emerge easily and appropriately as they are required. The group is not preoccupied exclusively with either task-achievement or social-needs satisfaction; satisfaction on both counts seems to be obtained easily and almost effortlessly. Contrariwise, the Closed Climate is marked by low scores on Esprit and Thrust, and by a high score on Disengagement. There seems to be "nothing going on" in this organization. Although some attempts are being made to move the organization, they are met with apathy; they are not taken seriously by the group members. In short, "morale" is low, and the organization seems to be stagnant.

What, then, is Factor I measuring? In what way are the Open and Closed Climates related? The answer is obvious: the Open Climate is "open" in that the actions of the group members emerge freely and without constraint. But this can be stated in another way: the behavior of the group members is genuine, or authentic. Moreover, there is a balance between behavior which is oriented toward social control and behavior which satisfies social needs, and a further balance between the initiation of leadership acts by the principal and the emergence of such acts from the group. All of these conditions contribute to the "openness" of the climate; accordingly, we have named Factor I Openness.

Now, let us examine Factor II, and note the behaviors that occur in the two opposite climates which load high on this factor: the Controlled and the Familiar. The Familiar Climate is highly personal, but under-controlled. The members of this organization satisfy their social needs, but pay relatively little attention to social control in respect to task

accomplishment. Conversely, the opposite orientation is found in the Controlled Climate. The group's behavior is directed primarily toward task accomplishment, and relatively little attention is given to behavior oriented toward social-needs satisfaction. In brief, social control and task accomplishment are present, but are achieved apparently at the expense of some social-needs satisfaction.

The Esprit found in these two respective Organizational Climates is obtained in different ways; in the one case, by task accomplishment, in the other, by social-needs satisfaction. Accordingly, Factor II pertains to the balance between these two orthogonal behaviors. However, both of the climates (the Controlled and the Familiar) are "out of balance" because one of the two major, requisite types of behavior is relatively weak. As a result, Esprit is not as high in either instance as it is in the Open Climate. We conclude that the behavior represented by a high loading on Factor II--whether positive or negative--is not as appropriate, or "effective," as the behavior which distinguishes the Open Climate. In short, such behavior is not as "authentic." In the one climate there is a pre-occupation with achievement; in the other, an over-concern with satisfying social needs. Whenever one organizational requirement is stressed at the expense of the other, some degree of "openness" or freedom in the behavior of the group members is lost, and to this extent the behavior within the group becomes less "authentic." (The authenticity of behavior is indicated crudely by our best single index of perceived "morale," Esprit.) In sum, Factor II pertains primarily to the style of organizational behavior in respect to social-control vs. social-needs satisfaction.

Now, what is the axis of reference on which the Paternal Climate and the Autonomous Climate are aligned? Both obtain high loadings on

Factor III, negatively and positively, respectively. Factor III can be construed as an index to the latitude within which the group members can initiate leadership acts. In the Autonomous Climate this latitude is wide, but the freedom that this latitude allows is not accompanied by sufficient direction and control from the principal. (In other words, the principal has not defined the structure, or the limits, within which the members can feel free to attempt leadership acts.) Under these circumstances some task-oriented leadership acts are not initiated simply because the organization's immediate problems have not been defined clearly enough to allow the group members to know what leadership acts would be most appropriate for solving the organization's problems.⁶⁶ For this reason the score on Esprit for the Autonomous Climate is not as high as the Esprit score in the Open Climate.

Contrariwise, the Paternal Climate is best characterized as one in which the principal constrains the emergence of leadership acts from the group and attempts to initiate most of these acts himself. In this instance the leadership skills within the group are not used to supplement the principal's own ability to initiate leadership acts. Consequently, some required leadership acts are not even attempted. The principal's personal disregard of the leadership potential within the group is accompanied by the low Esprit that we find in the Paternal Climate.

Consequently, for the group members to perceive the climate as "authentic" and for the leadership within the group to be construed as

⁶⁶For a discussion of leadership acts and the differentiation between attempted, successful and effective leadership acts, see John K. Hemphill, "Administration as Problem Solving," pp. 89-110, in Administrative Theory in Education, ed. Andrew W. Halpin, (Chicago: Midwest Administration Center, University of Chicago, 1958).

"reality-centered," leadership acts must be allowed to emerge from both sources; from the leader and from the group. But in a situation where the teachers and the principal are more greatly preoccupied with the source of attempted leadership acts than with their relevance and merit, the organizational climate is perceived by the teachers as non-authentic and hence, as not Open. In brief, Factor III pertains to the source of attempted leadership acts: whether they originate primarily from the group or from the leader.

To summarize: from the profile analysis we have inferred three parameters which can be used to conceptualize the social interactions that take place within an organization:⁶⁷

1. Authenticity: The "authenticity," or "openness," of the leader's and the group members' behavior.
2. Satisfaction: The group members' attainment of conjoint satisfaction in respect to task accomplishment and social needs.
3. Leadership Initiation: The latitude within which the group members, as well as the leader, can initiate leadership acts.

⁶⁷Myself when young did eagerly frequent
 Doctor and Saint, and heard great argument
 About it and about: but evermore
 Came out by the same door where in I went
 The Rubaiyat

V. WHITHER?

Lest Ariadne's thread may seem to have become tangled at a few points, perhaps we should pause here to recapitulate. This research on the Organizational Climate of schools was proposed initially to the Cooperative Research Branch of the U. S. Office of Education as only the first, exploratory phase of a long-range project. Accordingly, this first effort was conceived from the start as a feasibility study. We deliberately did not want to subject either the Cooperative Research Branch or ourselves to a long-term research commitment until we first had had a chance to explore our idea of mapping the Organizational Climate of schools and of devising an instrument which would permit us to differentiate one Organizational Climate from another.

The answer to the question of feasibility is clear. We have constructed the Organizational Climate Description Questionnaire and have identified eight dimensions of behavior within the domain tapped by this questionnaire. We also have analyzed the subtest profiles for 71 elementary schools and have classified these profiles in respect to six Organizational Climates. Furthermore, the three factors which we have extracted from the Q-analysis of the school-profiles have given us an alternative way--in addition to that provided by the analysis of each school's profile on the eight subtests--of "understanding" what kinds of behavior, on the part of the principal and the teachers, are associated with the differences which we have found in Organizational Climates.

But in the course of this research, the data have forced us to modify our initial perspective. The more we worked with the data, and the more we reflected upon our observations of teachers and principals, the more

did we come to realize that an important piece was missing from our jigsaw puzzle. We kept being nagged by a highly intuitive observation: we were struck by the impression that what was going on in some schools was "for real," while in others, the characters on stage seemed to have learned their "parts" by rote, without really understanding the meaning of their "roles."⁶⁸ In the first situation the behavior of the teachers and the principal appeared to be "genuine," or "authentic," and the "characters" were three-dimensional. In the second situation the behavior of the group members seemed to be "thin," two-dimensional, and stereotyped; we were reminded of papier-maché characters acting out their roles in a puppet show. Something in the first situation made it possible for the group members to behave authentically (i.e., "for real," or "genuinely"). The professional roles of the individuals (as a principal or as a teacher) remained secondary to what the individuals, themselves, were as human beings. Within this climate there was enough latitude in the specification of roles to allow the role-incumbents to experiment with their

⁶⁸This superficial learning of a role is nicely illustrated by an incident which took place before World War II in a suburban school system in Westchester County, New York. A new superintendent of schools had recently been appointed. But his predecessor, Dr. Q., before he was fired, had left his mark on the system. This incident took place during what can be described as the "later orange-crate Renaissance" in progressive education. Dr. Q., glistening with the new Ed. D. which he had just received from the Mecca on 120th Street, had decided to make the school system "progressive." It was evident that the elementary-school principals were not sympathetic with Dr. Q.'s views and that they suffered no grief when he was fired. One day, about six months after the new superintendent had been appointed, the school psychologist asked one of the principals, Miss B., for an appointment that afternoon. She said that she could not make it and that she was sorry; then she added, "When Dr. Q. was here, the principals and a group of teachers thought that we had better learn something about progressive education. So we have been going down to T.C. two afternoons a week for the past year. We figured that we had better learn the vocabulary." And this is precisely what had happened. They had "learned the vocabulary," but they also had remained innocent of any understanding of Dewey's ideas.

roles--to work out ways of bringing their own individual style to their job and to their relations with confreres. Within the opposite climate the roles seemed to be overspecified. The individual appears to use his role as a protective cloak, almost as if the cloak might serve to hide his inner emptiness and his lack of personal identity.⁶⁹ The role itself, and the individual's status as a teacher or a principal, appear to constitute his essential sense of identity. Furthermore, in these instances the individual uses his role ritualistically, so that it becomes a device which keeps others at a distance and thus precludes the establishment of authentic relationships.

But it was not intuitive observation alone that prompted us to examine the issue of "authenticity" in behavior. The OCDQ subtests, and in particular those for Thrust and Esprit, provide indices of this very quality of "authenticity." For example, Thrust measures a combination of the two factors tapped by the LBDQ: Initiating Structure-in-Interaction and Consideration. It corresponds to what Argyris has described as "reality-centered leadership":

Effective leadership depends upon a multitude of conditions. There is no one predetermined, correct way to behave as a leader. The choice of leadership pattern should be based upon an accurate diagnosis of the reality of the situation in which the leader is imbedded. If one must have a title for effective leadership, it might be called reality-centered leadership. Reality-centered leadership is not a predetermined set of "best ways to influence people." The only predisposition that is prescribed is that the leader ought to first diagnose what is reality and then to use the appropriate leadership pattern. In making his diagnosis, he must keep in mind that all individuals see reality through their own set of colored glasses. The reality he sees may not be the reality seen by others in their own private world. Reality diagnosis, therefore, requires

⁶⁹Such behavior is neatly described by the comment, "He lives his life inside a cellophane wrapper."

self-awareness and the awareness of others. This leads us back again to the properties of personality. A reality-oriented leader must also keep in mind the worth of the organization. No one can make a realistic appraisal if for some reason he weighs one factor in the situation as always being of minimal importance.⁷⁰

The principal who scores high on Thrust is not enslaved by a narrow definition of his role, nor does he seem to be preoccupied with his status. He is more intent on task accomplishment, on getting the job done, and on moving the organization toward its goals. (Note, however, that he does this without sacrificing Consideration.) In a sense, he is willing to "unfreeze" the organization from one stage of its development--even if that stage be highly satisfying to the group members in terms, for example, of Esprit or Consideration--and to take the risk of change, confident that such change will result in a higher order of organizational development which, in turn, will permit a greater congruence between the social-needs satisfaction of individual group members and the specification of their roles. To take this risk and to gamble on the outcome of "unfreezing" the organization, the principal "must stand for something." He also must be open in letting his teachers and the school's patrons know what, indeed, he does stand for. In short, he must be "authentic."

Contrast his behavior with that of the principal in the Closed Climate. This principal's low Thrust, combined with moderately high Aloofness and Production Emphasis, suggests that he uses his role to keep people at a distance, to limit his "part" to a two-dimensional one, and to re-enforce the present level of the organization's development (i.e., he insists that nobody rock the boat). We would guess that he is afraid to let go, because

⁷⁰Chris Argyris, Personality and Organization (New York: Harpers, 1957), p. 207.

letting go will expose his lack of the professional skills necessary for embracing change. Lacking professional competence, he must cling all the more tenaciously to his status. So he is compelled to "keep other people in their place," and to emphasize reiteratively that, "We must move slowly. Changes must be made very gradually." Because change represents so terrifying a threat to him, he clutters the organizational system with Hindrance. The result, as we can see in the prototypic profile for the Closed Climate, is high Disengagement and low Esprit.⁷¹

In the same way that Thrust furnishes an index to the "authenticity" of the principal's behavior, so does Esprit provide an index to the "authenticity" of the group's behavior.⁷² Probably the best single index of "authenticity" which we can adduce from the present data is the combination of high OCDQ scores on both Thrust and Esprit.

As we have just noted, the present findings allow us to make inferences about possible indices of "authenticity." Yet ironically enough, when we started this project, we simply were not wise enough to incorporate into the design any direct measures of "authenticity." Depending upon how we wish to view what has happened, we can say that we have been either blessed or damned by serendipity. We do not intend to disparage the worth of the present findings, and certainly we have no reason to apologize for what

⁷¹We would guess that this man's strategy for diminishing Disengagement is to strive for even greater Production Emphasis, while he, at the same time, accentuates his own two-dimensionality. This strategy, of course, succeeds only in making the climate even more closed than it was in the first place. The net result is that the teachers see through this principal; they know that he is a fraud and that "authentic" relationships with him are impossible.

⁷²As we have noted in the two-factor rotational solution for the subtests, Table 4, p. 53, Thrust and Esprit possess an almost identical factorial structure.

these findings reveal. But by the same token, we believe that the chief consequence of the present study is our identification of the pivotal importance of "authenticity" in organizational behavior.

In sum, we believe that further research on the Organizational Climate of schools, and indeed, further research with the OCDQ, will yield high pay-offs in new knowledge about organizational behavior. But we are also convinced that these pay-offs will be increased tremendously if we can conjoin with further research on the OCDQ a set of parallel studies focused directly upon the issue of "authenticity."

Enough on this point for the moment!

Now let us stop to examine the limitations of the present study--essentially in respect to methodology. Then, after we have sounded the major caveats, we will discuss a few implications of the findings.

CRITIQUE

Since there is nary a longitude without a platitude, perhaps we can exercise our option by using up our quota of platitudes right now. The first piece of cant which we must utter is that this research effort has raised more new questions than it has answered. The second, indecently obvious comment is that the present findings will need to be "cross-validated" on a broader and independent sample of schools. The third threadbare, yet nonetheless real, apology is that in every research conducted under contract the investigators must contend with the crass realities of time, money, and the mobility of university personnel. No matter how alluring the prospect may be to pursue new lines of inquiry which have been opened by the findings, the investigators must draw the line somewhere; they must report their findings to date, so that they can get critical feedback from their colleagues before a Lorelei song

seduces them into further, and perhaps premature, digressions. These, then, are the conditions under which this report has been written. The cut-off point is arbitrary; it has been dictated by the clock.

In social science research, findings are seldom as tidy as the investigators would like them to be. Our situation provides no exception on this score. Yet our objective has been attained. We have found that it is feasible to dimensionalize the behaviors which define the Organizational Climate of elementary schools and we have identified empirically six distinct Organizational Climates which make good sense, both practically and psychologically.

At this first stage of the game, the overriding question was whether the Organizational Climate of schools could be mapped at all--no matter how crudely. This can be done.

Obviously, the Organizational Climate Description Questionnaire, despite all the revisions that we already have made in it, is not yet in perfect form. A few of the subtests do not contain enough items to provide measurements that are as dependable as we might desire. But this is no serious problem. Knowing, as we do now, what the eight major dimensions are, it will not be especially difficult to construct, for each of the subtests, additional items which will increase the dependability of these measures. Of course, a balance will have to be maintained between the length of the questionnaire and the tolerance of the teachers who are required to take it.

When the dependability of the subtest measures has been increased by the addition of more items, the next move will be to cross-validate the present dimensions by factoring similar data from an independent and larger sample of schools. A cross-validation study may show that the

OCDQ will benefit from a few modifications. We don't know. Yet we surmise that the eight dimensions and the six climates which we have delineated here will survive the crucible of cross-validation.

We are certain that some readers have already objected to how we have used the term "validation" in the last paragraph. Indeed, to such readers this entire report may be haunted by a ghost (an American Psychological Association member, of course) who keeps muttering, "But what about validation?" To which we can only reply that at this point we have not been concerned about the relationship between the profile scores on the OCDQ and "external criteria" of a school's "effectiveness." Our reluctance to deal with the criterion issue right now has been reinforced by strong and increasing evidence that many of the measures which have been used in education as purported indices of a school's "effectiveness," or of an administrator's "effectiveness," do not justify the blind confidence that many of us have placed in them. The findings reported in the recent, monumental study of elementary-school principals by Hemphill, Griffiths and Fredricksen⁷³ show why we should be extremely cautious about the pitfalls of the "criterion issue." Indeed, the "in-basket," simulated experience devised by Hemphill and his colleagues provides, in many respects, a far more useful and meaningful set of criteria for administrative performance than do some of the measures which heretofore have been used as alleged criteria. For example, ratings of principals by their superintendents have been revered for several decades. Yet serious questions can be raised about both the relevance and the dependability of such ratings.

⁷³John K. Hemphill, Daniel E. Griffiths and Norman Fredricksen, Administrative Performance and Personality (New York: Bureau of Publications, Teachers College, Columbia University, 1962).

Accordingly, we are not quite sure against what criteria we should seek to check the climate scores. We cannot rule out the possibility that the climate-profiles may indeed constitute a better criterion of a school's "effectiveness" than many measures that already have entered the field of educational administration with fake passports, and which now masquerade as criteria. We simply do not know. But we also know that we cannot dismiss the criterion issue. Our point is clear: In the next phase of research with the OCDQ, when we seek to determine the relationship between the OCDQ scores and "criteria," we must avoid the temptation of seizing upon certain criteria solely because they are lying around loose in the literature--or in the school's Central Office file. Instead, we must be ruthless in screening possible criteria and in determining which criteria, if any, are relevant to our purpose. Certainly, it would be perilous to ignore the findings of Hemphill and his colleagues.

However, we can suggest one type of criterion study that may prove relevant. Specifically, it would be useful to send a team of observers into a sample of elementary schools and have the team members do a case-study of each school with the purpose of describing the school in respect to the OCDQ dimensions and the six climates that we have identified. Concomitantly, the OCDQ should be administered to the faculty of these same schools. Then a group of qualified judges should be asked to do a "blind matching" between the case reports and the OCDQ profiles.⁷⁴

⁷⁴Such a study would be similar to one done with the Consideration and Initiating Structure dimensions of the LBDQ, as part of a Staff Associate Project at the University of Chicago. See Observation of Administrator Behavior: Report of 1958-59, Staff Associate Project (Chicago: The Midwest Administration Center, University of Chicago, 1959).

In the present phase of this research on the Organizational Climate of schools we have failed to take into account another essential point: the probable curvilinearity of the relationship among the different variables. Throughout the present analysis we have made the assumption of linear relationships. Yet we know from studies such as those by Fleishman and Harris,⁷⁵ by Triandis⁷⁶ and by Urry⁷⁷ that the relationship between the Consideration and the Initiating Structure dimensions and various independent measures of group "effectiveness," or productivity, can be understood far better when these relationships have been plotted curvilinearly, rather than linearly. But we decided to handle the curvilinearity issue in another way. We knew that some of the OCDQ subtests tapped non-monotonic functions. (For example, too much Intimacy as well as too little Intimacy can detract from the openness of the Organizational Climate.) But we also knew that the method of profile analysis which we had used took this non-monotonicity into account because this analysis dealt with the subtest patterns.

Obviously, the present data on the OCDQ cannot yet be used for normative purposes. We must not forget that the sample of 71 schools upon which the present findings are based is a fortuitous sample; it was not drawn at random from a clearly defined population. Accordingly, we can use this

⁷⁵Edwin A. Fleishman and Edwin F. Harris, "Patterns of Leadership Behavior Related to Employee Grievances and Turnover," Personnel Psychology, XV No. 1 (Spring 1962), pp. 43-56.

⁷⁶Harry C. Triandis, "A Critique and Experimental Design for the Study of the Relationship between Productivity and Job Satisfaction," Psychological Bulletin, LVI, No. 4 (July 1959), pp. 309-12.

⁷⁷Vern W. Urry, Employee Perceived Supervisory Behavior, Attitude Towards Supervision, and Performance (Master's Thesis, Department of Psychology, University of Utah, June 1962).

fortuitous sample for making estimates of the relationship among the subtests and for analyzing other internal relationships. We also can use these data if we should choose to estimate the relationship between these OCDQ scores and whatever measures we may select as external criteria. Furthermore, for the 71 schools within this particular sample we can compare the profile of any one school with the profile of any other--or with the profiles of all the other schools--in terms of its relative position within this sample. But we cannot state what the distribution of scores would be for a representative sample of elementary schools in the United States, or for that matter, in any of the six States from which we have drawn the schools in the present sample.

By converting the raw scores of the OCDQ into standard scores we have, in effect, forced upon the data the particular distribution that we have reported. There is nothing "illegitimate" in doing this. But it is imperative that we do not forget what we have done, imperative that we do not draw inferences from the data on the fallacious assumption that the sample has been drawn from a representative population and is, indeed, not merely fortuitous. Other samples may yield distributions of OCDQ scores which do not differ significantly from the distribution reported here. But we do not know; this is a question that must be checked empirically. To repeat: we can treat with reasonable confidence the relationship among the subtest scores and can compare, in relative terms, one profile with another. But we must remember that the "anchor points" for the distribution of OCDQ scores have not yet been determined.

At this stage of the project, the prototypic profiles must be construed as only a relatively crude way of classifying the 71 schools in the present sample. Since the number of schools that were used to compute

each prototypic profile was small (4-6 schools), the subtest scores which we have obtained for each profile may vary as much as 5 points from the values at which these scores eventually will be stabilized when OCDQ data have been secured from additional and larger samples of schools. But the obvious unreliability of the prototypic profile scores does not disturb us because it is not severe enough to effect the basic pattern of subtest scores for the respective climates. However, this unreliability may force us to modify slightly our depictions of the six climates. Consequently, we are eager to use the OCDQ with additional samples of schools so that we can thereby determine the stability of the prototypic profiles.

Furthermore, in the vignettes which we have used to describe the six Organizational Climates, we have deliberately accentuated the distinctive features of each climate; hence, to some degree these descriptions have been "idealized." We have done this for three reasons: (1) to focus upon the salient characteristics of each climate so that we could more readily identify the three profile-factors, (2) to determine whether the six descriptions were "live" and recognizable, and (3) to judge whether the descriptions, in toto, were inclusive enough to cover most of the spectrum of leadership behavior and group interactions, as these have been reported in the research literature. Teachers and colleagues who have read these vignettes report that they are "live"--almost to the point of discomfiture. These readers claim that they "know" these climates, and "know" the characters in them only too well. We may have missed a few thin bands in the spectrum but on the whole, we seem to have covered the range.

One of the OCDQ dimensions, Consideration, is the same as one of the dimension which has been identified previously in the Leader Behavior

Description Questionnaire studies. But our findings on Consideration in the present study raise again a question which bothered us a few years ago when we were working with the Leader Behavior Description Questionnaire: have two or more facets of "Consideration" behavior been confounded within a single measure? We believe that there are certain kinds of behavior that can be described as Consideration which emerge from psychological weakness; the individual is impelled to be considerate to other people because he himself is so hungry for affection and approbation. Conversely, other kinds of Consideration seem to emerge from strength; the individual is considerate to others not because of his own poverty of love, but because of the freedom with which he can give love. The latter individual knows that the very act of giving love (Consideration) replenishes his own supply, whereas the former individual treats love as a medium of barter: he gives "love" only in order to buy some for himself. At the manifest and superficial level, the behavior of both individuals may appear to be the same. Yet we suspect that we are making a mistake when we interpret an individual's manifest behavior apart from the context of character in which it appears.⁷⁸

We have noted a second, apparent "split" in the dimension of Consideration. Some administrators use a spray-gun approach in spreading consideration and affability in all directions. Like airline "stewardi" they behave as if they had attended Smile School. Other administrators appear to be much more discriminating; they focus their acts of consideration upon the specific requirements of a given individual at a given time. We do not imply that the polarity between that consideration which stems from weakness

⁷⁸For a discussion of this issue, see Erich Fromm, Man for Himself (New York: Rinehart, 1947), particularly pp. 54 ff.

and that which is derived from strength coincides with the polarity between spray-gun consideration and focused consideration. We don't know. But we have a strong hunch that the research on Consideration which has been reported to date, presents an utterly oversimplified picture of the variety of behaviors that are encompassed within this dimension. A more sophisticated way of measuring Consideration is sorely needed.

In interpreting the prototypic profiles, we have emphasized the impact of the behavior of the principal upon the climate which obtains in his school. There is no gainsaying the fact that such influence does operate and that it must be taken into account when we seek to understand the Organizational Climate of a particular school. But this is not a one-way street. The leader influences the behavior of the group members, but the group members also influence the behavior of the leader. However, since influence is an effect that takes place over time, it is impossible for us to make any inference about the direction of such influence on the basis of the present OCDQ measurements because measurements have been made at only a single slice in time.⁷⁹

But we must be cautious in one other respect when we attempt to interpret the behavior of the principal. His behavior, in its effect upon the Organizational Climate of a school, should be construed as a necessary but not a sufficient condition which determines the school's climate. For example, if a principal behaves in a way such as is depicted in the sixth climate--the most "Closed" one--it is doubtful that the group members, entirely on their own, can do very much to change this climate. Indeed,

⁷⁹See Andrew W. Halpin, "A Paradigm for Research on Administrator Behavior," in Administrative Behavior in Education, eds. Roald F. Campbell and Russell T. Gregg (New York: Harpers, 1957), pp. 155-200.

their high Disengagement score suggests that they already "have given up."

But we also must take into account the converse of this situation. Suppose that a new principal has been assigned to an elementary school. He is young and intelligent, and he has had good experience and training. He possesses Thrust and he is highly considerate. He moves into the school with every intention of maintaining an Open Climate such as he had maintained in the school from which he came. But what happens to him if the teachers are not "prepared" to deal with an Open Climate? Suppose that the teachers in this school have contended for the past ten years with a principal whose behavior typifies that which characterizes a Closed Climate. We must recognize the strong possibility that the very openness of the new principal's behavior can present the teachers with a severe psychological threat. When the members of a group have been deprived of freedom for a long period of time they seldom are quite ready to deal with it, especially if it be made available to them too abruptly. This, of course, is the issue which Fromm has discussed in his classic analysis, Escape From Freedom.⁸⁰ It is for this same reason that the British Army established at the close of World War II special "decompression camps" for British soldiers who had been held as prisoners of war for several years in the Nazi compounds.⁸¹ These "decompression camps" were established because the Army psychiatrists recognized that too abrupt a shift from a Closed Climate to an Open Climate might prove psychologically

⁸⁰Erich Fromm, Escape From Freedom (New York: Rinehart & Bros., 1941).

⁸¹Adam Curle, "Transitional Communities and Social Re-Connection: A Follow-up Study of the Civil Resettlement of British Prisoners of War," Human Relations, 1, No. 1 (1947), 42-68 and No. 2, 240-288.

traumatic to these soldiers. Additional supporting evidence for this view is provided by the experience of those men and women who survived Buchenwald and Dachau.⁸²

Accordingly, our newly appointed principal should not be surprised when he discovers that his behavior constitutes a serious threat to the teachers. Because of the tenure system in public schools and because no public school has yet been known to have been put out of business on account of poor teaching, it is the new principal who becomes "The Patsy." The teachers channel their personal anxieties into a vengeful hostility focused upon him. In such situations it is common to hear the teachers say, "Principals may come, and principals may go, but we go on forever." Subjected to the teachers' hostile attack, the new principal is left with a narrow range of alternatives. He can, of course, resign. But he knows that a stay of only one year, or less, at a school will not look good on his resumé and may, indeed, jeopardize his career. The chances are good that the superintendent of schools or some other official will tell the principal, "We agree with what you are trying to do. We are all for you, but you must remember that changes must be made very, very slowly. You are still a young man; you are too impatient. You have to remember to adjust to the local mores." Then, what happens? The principal is forced to backtrack from the position which he took initially. This provides positive reinforcement for the teachers who can then capitalize upon the principal's first compromise by pushing him into further compromises. Unfortunately, here is a situation where the group's inertia can immobilize a man who in other circumstances might prove to be a highly effective leader.

⁸²See, for example, Bruno Bettelheim, The Informed Heart: Autonomy in a Mass Age (New York: The Free Press of Glencoe, 1960).

This type of problem occurs not only with principals but with superintendents of schools as well. Most of us probably know of at least one superintendency that is vacant at this moment, and we know, too, that any man, no matter how well qualified, who accepts the particular job will put his head under the guillotine. (Strangely enough, there never seems to be a dearth of willing victims.) The kindest thing that can be said about some administrative positions in the public schools is that the superintendent's job--or in some instances, the principal's job--is untenable.⁸³

To reiterate: we recognize fully that in the present report we have not taken into account the effect which the group has upon the leader. The whole question of the direction of influence in a given climate at a given time remains to be explored.

Nor have we taken into account the extent to which the climate in a given elementary school is determined by the social matrix of the school system of which it is a part. School systems vary in respect to the degree of control that is exerted by the superintendent and the Central Office. In some systems the principal of each elementary school is permitted only a very limited range of discretion in how he may administer the school. In other systems the superintendent may encourage autonomy and freedom for all the principals in the system. It would be intriguing to analyze in depth the difference between two sets of school systems: one set in which the variance in Organizational Climates among all the elementary schools in the system is narrow, and a second set in which this variance is wide.

⁸³A similar condition in the case of Deans of Colleges of Education is not entirely unknown.

We surmise, too, that the organizational climate that we find in an elementary school may be related to such demographic factors as, for example, the age of the school; whether it is located in a wealthy suburb or in a deteriorated slum; whether it is set in a metropolitan center, a village or a rural area.

Other studies need to be done on the relationship between the Organizational Climate which characterizes the school and various biographical and personality measures⁸⁴ of both the teachers and the principal.

Nor, in this day of John Birch Societies and of zealous committees which hunt for a communist under every bed, can we ignore the relationship between "the political flavor" of a community and the Openness of climate that is allowed to exist in the elementary schools. We can remember the United States' years of shame when the late Senator McCarthy was perpetrating his disgraceful exhibitions in Congress. During that period, many subtle restraints--and some that were anything but subtle--were imposed upon teachers; indeed, even the graduate schools of many universities did not escape unscathed. Accordingly, we have a hunch that how open the climate of a school may be, will depend, at least in part, upon how much "Openness" the community itself considers "safe."

In short, the variance of the Organizational Climate of schools is undoubtedly associated with variance from a great many sources, only a few of which have been suggested here. The important point is that the OCDQ provides us with a technique that will permit us to determine what other variables do indeed co-vary with scores on the OCDQ.

⁸⁴For an analysis of the biographical characteristics of principals, see Andrew W. Halpin and Don B. Croft, "The Biographical Characteristics of Elementary-School Principals," unpublished report to the Cooperative Research Branch, U.S. Office of Education, Contract #214(6905), (Bureau of Educational Research, University of Utah, 1960).

There is another pitfall of which we must be aware. Throughout this report we have stressed the point that the group members must be able to enjoy social-needs satisfaction and satisfaction from task-accomplishment. We have assumed that the principal source of social-needs satisfaction lies in the teacher's interactions with fellow teachers and the principal. But this, too, is an oversimplification. A school is not an assembly line; the teachers are working with children. Consequently, a teacher, especially in the elementary school, can achieve a major source of social-needs satisfaction through her close personal relationship with the children themselves. Indeed, this satisfaction may be sufficient to compensate her for many dissatisfactions which her membership in the school organization forces her to endure.

Next, we must emphasize as forcibly as we can, a crucial point: the dimensions by which the Organizational Climate have been defined are descriptive, taxonomic and phenotypic dimensions. Consequently, these descriptive dimensions do not necessarily correspond to the dimensions of behavior along which change can be induced in a school's Organizational Climate. This point is of extreme practical importance; it has bearing even upon so apparently simple a matter as the reporting of the findings from the present study to those schools which have participated in this project. Specifically, suppose we report the OCDQ scores to the principal of School Number 11 (Table 8). This is the school whose profile depicts a climate more closed than that found in any of the 70 other schools. What will the effect of this report be upon the principal or upon the teachers? For us to expect that the principal's knowledge of these scores will automatically result in an improvement in the school's climate would be rashly naive. We would guess that the immediate impact

upon the school of the knowledge of these scores would be a tendency for the climate to become even more closed. Consequently, we must be extremely careful in how we use the information that is secured by means of the OCDQ. We must, for example, avoid the stupid inference that if Thrust is "good" then we ought to incorporate into our graduate training programs for principals an advanced seminar on Thrust. Such a plan would miss a central point: the subtests do not describe dimensions along which change can be induced by means of a direct frontal attack. Yet, as we have already noted, we have at least one hunch about a possible genotypic dimension which may provide an avenue for change-induction: authenticity. But here, too, we must be cautious lest zealots degrade this concept into a slogan and post at strategic places in all schools, signs which, in bold type, urge one and all to "BE AUTHENTIC." We recall André Gide's incisive observation that no man can be sincere at the same time that he says he is sincere. Likewise do we surmise that the more a man tries to be authentic in his behavior, the less authentic will he be. There is no easy prescription to follow; nor will changes be made by the wave of a wand. The first step is to learn much more than we know now about the interpersonal conditions that make authentic behavior possible.

Authenticity is a tricky concept and one which does not lend itself readily to operational definition. Moreover, there is a central problem that complicates whatever attempt we may make to define this concept: the difference between (1) the authenticity of behavior as perceived by the participants in a given situation and (2) the authenticity of behavior as perceived by an outside observer who seeks to evaluate this authenticity against an essentially "absolute" standard, as compared to a relative one. This problem, of course, is another variation of the same issue that we

encounter in the fields of mental hygiene and psychiatry when we seek to differentiate between "adjustment" and "positive mental health." For example, it is entirely possible that a patient can achieve a level of "adjustment" which allows him to cope with the world and to experience some measure of "happiness," even though his level of functioning is still considerably below the standard which a team of competent psychiatrists and psychologists would construe as indicative of "positive mental health." This is why psychiatrists refer to some patients as well-adjusted neurotics. This diagnosis points up the fact these are situations in which it is expedient to let a patient live with his symptoms, providing that they are not too acute and do not interfere too seriously with his daily functioning. Indeed, the symptoms may represent "frozen anxiety"; the psychotherapy required to "unfreeze" this anxiety in order to relieve the symptoms may confront the patient with an image of himself more hideous than he can bear. Consequently, under these circumstances the therapist may decide that settling for adjustment entails less risk for the patient than attempting to guide the patient toward full maturity.

Analogously, the participants in a given social situation may perceive (or believe) that their behavior vis-à-vis each other is entirely authentic. Yet a perspicacious "outside" observer can recognize immediately that the participants' behavior is outrageously phony. Each participant in such a situation can be likened to a man with extreme myopia who has not yet worn his first pair of glasses. Until such time as the correction for his visual defect allows him to see how the world "out there" actually looks, he must deal with many visual stimuli for which he possesses no authentic basis for judgment.

We know that when we start speaking in terms of an "absolute" standard

of authenticity, many scientists will promptly bristle. Within the behavioral sciences, in particular, we have become so accustomed to the notion "that everything is relative" that even the slightest suggestion of an "absolute" standard is anathema to most of us. Yet in spite of the resistance which our suggestion may produce, we believe that future research efforts should be directed to the devisement of criteria for identifying "authenticity" in behavior, and that these criteria should be regarded as more analogous to standards for positive mental health than to those for adjustment.

In the past two decades the issue of adjustment and the problem of conformity in the American character have been discussed in a spate of books and articles. A few authors, particularly Fromm⁸⁵ and Lindner,⁸⁶ have raised serious questions about the leveling effect of conformity and the damage which man has suffered because of society's current emphasis upon "adjustment." Accordingly, if the suggestion that we should differentiate between authenticity as perceived by the participants in the situation and authenticity as evaluated by an essentially "absolute" criterion, should seem obtuse, we must counter this criticism by noting that the difficulty of dealing with the concept of authenticity diminishes not one whit the urgency that we do deal with it, and that we do so promptly. This problem of authenticity transcends the specific area of the present research; indeed, it must be analyzed within the context of the major social changes that have taken place in America during the past forty years. LaPiere, for example, has given us a penetrating analysis of

⁸⁵Erich Fromm, Man for Himself, op. cit.

⁸⁶Robert Lindner, Prescription for Rebellion (New York: Rinehart, 1952).

these changes and has shown how Freudianism has had many damaging effects upon the American character.⁸⁷

The difference between how "authenticity" is perceived by the participants in a situation and how it is perceived by outside observers can be illustrated by the case of one of our ex-colleagues. The most charitable comment that we can make about this professor's knowledge of research is that it has almost reached the primer level. He frequently interviews potential candidates for the Ed. D. degree; many of these candidates are men who are seeking to get their "ticket" in the most painless way possible. They want the degree primarily for status purposes, or to assure promotions for themselves; in most instances the idea of scholarship or of any drive to create new knowledge is alien to their motives.⁸⁸ The response of these candidates to any suggestion that they should take a course in statistics or one in research methods gives us the impression that their mothers, while carrying them, must have been severely frightened by a table of random numbers. Because of the physical arrangement of our offices it was impossible for us not to overhear some of these interviews. To listen to this professor and his candidates discuss possible research proposals was an astonishing and hilarious experience. It was similar to listening to two businessmen who, unbeknownst to each other, have already gone into bankruptcy, but who, nonetheless, loudly boast about their financial success and put on an elaborate act to impress each other.

⁸⁷Richard LaPiere, The Freudian Ethic (New York: Duell, Sloan and Pearce, 1959).

⁸⁸One of the candidates in this particular department eventually received his Ed. D. In the same way that a bride's mother announces her daughter's forthcoming wedding, this man immediately sent out formal cards to all his friends and associates announcing that he had received the degree and that he henceforth should be addressed as "Doctor."

Likewise, this professor and the students acted out an amusing set of farces in which professor and student alike pretended that they had a genuine interest in research, and that they understood research methods. But anyone with even a rudimentary knowledge of scientific method could instantaneously recognize these farces for what they were: a ghastly collusion in ignorance.

Yet in instances of this type we must be compassionate; we must realize that circumstances can create a situation so threatening to the participants that they simply cannot face up to the non-authenticity of their own behavior. To damn such people is both unkind and pointless; they are to be pitied. More than this, they need help.

But situations of this type are extremely serious, for they reinforce non-authentic behavior.⁸⁹ The individual's perception becomes increasingly selective so that he eventually either excludes or illegitimizes any form of feedback that disagrees with the distorted image he holds of himself. Thus, the selectivity of his perception provides a kind of tunnel vision which enables him to confirm the "rightness" of what he is doing. The problem often becomes even further complicated because those individuals whose behavior is non-authentic have a tendency to flock

⁸⁹ Nor is this reinforcement of non-authenticity confined to the field of education. Some evidence suggests that a similar reinforcement of non-authenticity occurs in our country's program for promoting better international relations. See, for example, William J. Lederer, A Nation of Sheep (New York: Norton, 1961). Obviously, we know that in daily, social intercourse some degree of non-authenticity is required to lubricate the social machinery. A guest, for example, does not tell his hostess that the roast was overcooked and that the wine she has served is fit only for barbarians. Yet we contend that in a program of professional training, where standards presumably are important, it is unethical not to tell the student that "his roast is overcooked." But if the professor's taste buds have atrophied and if he knows nothing about cooking, how can he possibly tell the student anything authentic?

together to compose a cabal whose conspiracy is energized by an unvoiced agreement among the members that they will desist from exposing each other's non-authenticity. Consequently, the members of this coalition increasingly reinforce their respective non-authentic behavior. If an agent external to this coalition--for example, a newly appointed principal in an elementary school--should happen to see through the non-authenticity of one member of this coalition and should try to persuade this member to change his behavior, the entire coalition becomes threatened; it tightens its ranks to support the member and quickly mobilizes its strength in opposition to the principal.⁹⁰ In the same way that the vehemence and diffuseness of a neurotic's response is often completely out of proportion to the stimulus which presumably has triggered the response, so too is the coalition's response out of proportion to the stimulus of the principal's actions. But aside from the impasses which a cabal of this kind creates within the school, the reinforcement of non-authenticity must be examined in respect to an even more destructive effect: its impact upon the members of the cabal, each of whom ultimately becomes his own victim. For, when such reinforcement of non-authentic behavior continues over a period of years, each victim reaches a point at which it becomes virtually impossible for him to face up to the fraud that he is perpetrating. . . . "Oh, what a tangled web we weave . . ."

And this brings us to a further complication in the concept of authenticity. To be authentic a man first must have something to be authentic about. Consequently, we surmise that none of us will significantly

⁹⁰At times, the behavior of such coalitions makes us recognize, with a shiver, that the theme of Shirley Jackson's great short story, The Lottery (New York: Avon Book Division, The Hearst Corporation, 1949) is not as far-fetched as we would like to believe.

further our understanding of authenticity until we analyze carefully an important confusion that pervades our society: the confusion between the search for identity⁹¹ and the search for status. For example, when a man uses his status as his chief source of identity his behavior inevitably becomes non-authentic. Furthermore, as long as he persists in using his status as a protective cloak he also diminishes the likelihood that his behavior within the organization will ever approach "authenticity." What happens is this: because he starts off by being less than authentic, his colleagues respond in kind, and their response, in turn, confirms his original, implicit assumption that he had better not be too "open" with them. And so the cycle continues and the breach becomes cancerous.⁹² Kubie, in an exquisite analysis, discusses the formidable resistances that are encountered when one attempts to help such a man reverse the

⁹¹ See for example, Allen Wheelis, The Quest for Identity (New York: W. W. Norton, 1958), and Maurice Stein, Arthur J. Fildich and David Manning White, eds., Identity and Anxiety: Survival of the Person in Mass Society (Glencoe, Ill.: The Free Press, 1960).

⁹² One notes how often this degenerative cycle occurs as a consequence of a man accepting an administrative job for which he is not yet qualified. His striving for status tempts him into a trap since he is forced, from the very outset, to operate at a deficit. So he tries to bluff. And in most cases, as the demands upon him increase, especially after the honeymoon in the new job is over, he finds himself operating at a steadily mounting deficit. So he bluffs even more. By now, his bluffing has become so habitual that he "believes" himself. (See Wendell Johnson, Your Most Enchanted Listener, New York: Harpers, 1956.) Finally, when his fraud becomes so evident that most of his associates see through it, he is either forced into a dead-end position in the organization or is persuaded to move to a new job. But because he lacks the courage to step down, to accept a lower salary or a lower status for a period during which he can try to make up for the deficit in his competence, he usually repeats the same pattern and takes a new job where he again gets into the same box. And again he must endure the same crucifying experience. Tragedies of this kind can be seen in almost every organization. Because these tragedies have such devastating effects upon both the victims and their families, we believe that social scientists have a moral obligation to give high priority to research in this specific area.

direction of this degenerative spiral.⁹³

Let us nurture no illusions: authenticity is not an easy concept to deal with. Yet fortunately, it has not been ignored in the literature. For example, Rinder and Campbell,⁹⁴ Seeman,⁹⁵ Erikson,⁹⁶ Argyris,⁹⁷ and Perlmutter⁹⁸ have all explored this problem of authenticity. Although each of these men started from a different part of the forest they all found that they were stalking the same deer. The several lines of inquiry have all converged on the same issue: authenticity.

"Authenticity" can be examined in respect to four major, conceptual frames of reference which are all interrelated:

1. The problem of the marginal man;
2. The problem of other-directedness and of societal pressures which impose conformity upon the individual;
3. The problem of person to person relations in crosscultural exchange;
4. The crisis of identity.

⁹³Lawrence S. Kubie, "The Eagle and the Ostrich," Archives of General Psychiatry, V (August 1961), 109-119.

⁹⁴Irwin D. Rinder and Donald T. Campbell, "Varieties of Inauthenticity," Phylon, XIII (December 1952), 270-75.

⁹⁵Melvin Seeman, Social Status and Leadership: The Case of the School Executive (Columbus, Ohio: Bureau of Educational Research and Service, Monograph No. 35, The Ohio State University, 1960). See also, Melvin Seeman, "The Meaning of Inauthenticity," unpublished paper.

⁹⁶Erik H. Erikson, "The Problem of Ego Identity," in Identity and Anxiety, op. cit.

⁹⁷Argyris, Interpersonal Competence, op. cit.

⁹⁸Perlmutter, op. cit.

It is a common observation that the marginal man has a tendency to overconform. The Negro who comes up from the South and achieves some success in moving to a lower middle-class status tends to over-identify with the white bourgeoisie.⁹⁹ The Jew who has only recently been "accepted" by his Gentile neighbors and business or professional associates, tries to divert attention from his Jewishness. He overconforms to the Gentile norms and is not likely to differ with the group on important issues, because to differ on issues, or even in the expression of attitudes, might invite fresh and uncomfortable attention to the fact that he is a Jew. As a result, in the case of both the Negro and the Jew, the individual, in his effort to be accepted by a group that appears prestigious to him, denies something of "himself" and to this extent his behavior becomes "inauthentic"; he, indeed, is not "himself." A famous rabbi struck at the core of this inauthenticity when he once told his congregation, "You can cut off your noses, but you can't cut off your Moses."

How does the marginal man concept apply to school personnel? Teaching can be construed as a marginal profession. The salaries of teachers are below those for other professions. For the most part, a teacher

⁹⁹ A poignant example of the overconforming behavior of the Negro is illustrated by an incident that took place in an office in a Mid-Western city. The three secretaries in the office were young Negro women who had recently come up from the South and had moved successfully into middle-class status. These were intelligent, competent women. In overconforming to middle-class "white" expectations they had eschewed Ebony but avidly read American Home and that Bible of bourgeoisie orthodoxy, The Reader's Digest. One of the psychologists asked the girls whether they were going to a Louis Armstrong performance which was scheduled for that evening. "Oh, no, Mrs. H., we wouldn't go to hear him." The girls were aghast at the very idea that Mrs. H. thought that they would go to hear Louis. Mrs. H. inquired further to find out which "popular" musicians the girls liked. For whom had they rejected the jazz that was both their own racial heritage and perhaps America's greatest single contribution to culture? They had rejected jazz in favor of the elephantine cadences of Lawrence Welk and the slimy arpeggios of Liberace.

cannot be in business for himself, as can a physician, a lawyer or an architect; he must practice his profession as a member of a community-supported organization (the school system), and in each community this organization exercises a monopoly. Hence, if the teacher is bound by personal and social ties to a given community, he cannot easily leave his job; he often must swallow his indignation and learn to "adjust" to the situation. Furthermore, a great many teachers were marginal students in their college or university, in that they had drifted down into a choice of teaching as a career only after unsuccessful attempts to make the grade in other departments on the campus. Finally, since teachers are recruited primarily from lower middle-class groups and, in recent years, have come in increasing numbers from the lower-class stratum, the marginality of their status is further accentuated.¹⁰⁰ It therefore is not surprising that teachers behave as do other marginal men. They are eager to overconform to what they think is expected of them. They fit themselves into a stereotype, and in so doing repress or repudiate parts of "themselves." Thus, a recent study of the biographical characteristics of a nation-wide sample of elementary-school principals shows that the portrait they present is that of "the good child."¹⁰¹ Indeed, the portrait is that they are "too good to be true"--or, shall we say, to be "authentic"?

But we encounter another problem of marginality in the school: the marginality of the principal in his role as a leader--which marginality occurs, as Seeman¹⁰² has pointed out, in all leadership roles in our

¹⁰⁰Robert J. Havighurst and Bernice L. Neugarten, Society and Education (Boston: Allyn and Bacon, Inc., 1957), p. 359.

¹⁰¹Halpin and Croft, op. cit.

¹⁰²Seeman, Social Status and Leadership, op. cit.

society. Seeman's interviews with elementary-school principals and school superintendents lead him to conclude that the leadership behavior of principals can be examined profitably in respect to the more general problem of "authentic" versus "inauthentic" reactions to status. Indeed, Seeman's data suggest ways by which the authenticity of a principal's reaction to status can be measured. He notes that the authenticity problem in respect to a leader's behavior can be viewed as simply the special case of a more general sociological problem: the relation between status stereotypes and behavior.

So much for the marginal man approach as one conceptual framework for the study of authenticity.

The second conceptual framework appears under various labels, including, for example, "other-directedness versus inner-directedness," and the pressure for conformity. In short, when we speak of "authenticity" we must contend with the question: "Authentic to what?" In a society in which most people are "inner-directed" there exists at least some standard against which "authenticity" can be gauged. But in an other-directed society in which man's actions are gauged mainly either by expediency or by a desire to conform to the group, it is difficult to find a stable standard against which "authenticity" can be evaluated.¹⁰³

The third conceptual framework deals with the problem of person to person relations in crosscultural exchange. Perlmutter has used the concept of authenticity in his study of the experience of Americans living abroad and of foreign visitors living in this country.¹⁰⁴ He

¹⁰³The advocates of firm standards repeatedly encounter two familiar ploys: "But who really is to say what is right?" and "But, after all, as you must know, everything is relative."

¹⁰⁴Perlmutter, op. cit.

notes that most persons who go abroad exhibit a wish not only for information about the foreign culture but for a reciprocated inter-human experience with other persons of the foreign culture. Perlmutter describes this experience as an "authentic inter-personal relationship." Furthermore, he contrasts "authentic" experience with what occurs in other instances where the visitor engages in superficial, defensive encounters with members of the other culture and deals with members of his host country principally in terms of stereotypes. Indeed, Perlmutter describes those Americans abroad who do establish "authentic" relationships as people who are more open.

In describing the experience of Americans abroad Perlmutter also discusses "the crisis of identity." Specifically, when an American lives abroad for an extended period he finds that his answer to the question, "Who am I?" is closely linked to another question, "Who is the foreigner?"-- "Who is the foreign unexpressed me?" Some Americans abroad respond to this crisis by denying it and by keeping their perception of the foreigner as stereotyped as they can. (Note the similarity between this behavior and the behavior of principals described by Seeman as characterized by overconforming to the stereotype of the leader's role. In turn, this corresponds to the behavior of the principals in the Closed Climate.) Other Americans, however, use their foreign experience to reconstrue their own personal role-constructs¹⁰⁵--or, if you will--to enrich their own sense of identity.

Let us illustrate this "crisis of identity" with two examples.

¹⁰⁵The concept of personal role-construct is used here in the sense in which it has been defined by George A. Kelly, The Psychology of Personal Construct (2 vols; New York: Norton, 1955).

First, consider the typical attitude toward masculinity held by American men. This attitude stresses sports, physical endurance, and a kind of rough-and-ready manner. On the other hand, gallantry toward women and interests of a literary, or aesthetic nature are viewed as somewhat "sissified." Consequently, when the "typical" American visits France or Italy he may find himself disturbed by his discovery that Frenchmen and Italians, particularly those from a relatively high social class, are indeed gallant toward women, and also are vitally interested in art, literature, ballet, and the opera. Furthermore, these interests do not detract from the perception which these men hold of themselves as masculine.

There are two major ways in which our American visitors can respond to such an experience. If our visitor's attitude is essentially "closed" he can reject this alternative view of masculinity; he can protect his own ego by stereotyping the men in his host country as "too feminine for my taste." Conversely, an American visitor whose attitude is more "open" may use the identical experience to question the tenability of the "typical" American concept of masculinity. As a result of his experience he may become more willing to recognize and accept "feminine" impulses within himself which he heretofore has repressed. By "opening" himself in this way, he enriches his sense of self-awareness.

As a second example of the "crisis of identity" let us consider the difference between the typical American's attitude toward time and the attitude which Latin Americans and people of the Mediterranean culture display toward time. For example, when an American first visits Brazil, he may find himself disturbed by the Brazilian's attitude toward time and punctuality. When a Brazilian businessman arrives for an appointment an hour or more late, the American may feel that he has been insulted.

Again, depending upon his openness or closedness toward a foreign culture, two major reactions are possible. The first reaction is to stereotype all Brazilians as unpunctual and, therefore, undependable. But an alternative reaction is possible. The American may begin to question his own attitudes toward time.¹⁰⁶ He may note among his Brazilian hosts a kind of joie de vivre which he finds lacking in his own life, at home in North America. He may even reflect upon how many of his business associates have suffered from ulcers or coronaries, and he may be prompted to ask himself the tantalizing question, "Why am I killing myself?"

It is obvious, of course, that those visitors who use their foreign experience principally to reinforce the stereotypes which they have brought with them are analogous to the principals whom we find in the Closed Climate. Contrariwise, the American visitor abroad who uses his experience to expand his own concept of self is similar to those principals whom we find in the Open Climate.

If we view the entire profession of education as one sub-culture in our society, then we can look at the responses that members of this sub-culture make when they are confronted by members of other professional or public sub-cultures in America. Thus, when Admiral Rickover or Dr. Robert

¹⁰⁶ An American's response to bureaucratic procedures in Brazil serves also to illustrate how an axis of reference may or may not be modified. When an American has his first encounter in Brazil with a labyrinth of red-tape, he may become furious and may conclude that the meaning of the Portuguese word for such confusion, "banguça" corresponds perfectly to what he knew in the Army as SNAFU. If he limits his interpretation of "banguça" in this way he will be inclined to reject his hosts and hence, reinforce his stereotypes about them. But if his axes of reference are somewhat more flexible and if he searches for a deeper meaning of "banguça," he will discover that the connotation of this word also includes an attitude of almost gracious resignation to "the way things happen." It is true that "banguça" does reflect the idea of SNAFU, but at the same time it also includes the attitude expressed by the Parisian who, with a fluid gesture, declares, "C'est la vie!"

M. Hutchins criticizes public education, do the members of a given school system, or of a given College of Education respond to criticism by stereotyping the critic, thereby illegitimatizing his criticism? Or do the teachers, principals, and professors allow themselves to be "open" to the criticism so that they can perhaps enrich their own understanding of education by taking into account the critic's "axis of reference" as well as their own?

A schism between professors of education and professors in the liberal arts college is found on most American campuses. How do the professors of education respond to the allegations that the other professors make against them? Do the professors of education coalesce defensively, and thus encapsulate themselves? Or do they remain "open" enough to give themselves a chance of modifying their own behavior in respect to the criticism? It is not enough for the professors of education to sing, with a slight correction, Annie Oakley's song, "Anything you can do, I can do better--or, at least as well." They must indeed show what they can do in their behavior.

Naturally, there are a few campuses where this schism does not occur. An outstanding example is the University of Chicago. How has the schism been averted there? Principally because the research productivity of the department of education is so outstanding that no basis for invidious comparison exists. Because the quality of research is high within the department, the professors of education can deal with their colleagues in other departments "authentically," in that they have no need to approach such encounters defensively. In short, the pattern of person to person interaction which Perlmutter finds in crosscultural contacts can be found in the counterpart interactions between different departments on the same

campus. And also, we would add, between the teachers in a school and its patrons.

The fourth conceptual framework which can help us understand authenticity is that provided by Erikson¹⁰⁷ in his concept of "the crisis of identity." We have already referred to this concept in discussing Perlmutter's work. To speak of "the crisis of identity" is another way of asking the familiar question, "Who am I?" Or, "Who am I really?" What is the "authentic" me? The especial relevance of Erikson's approach for the present study of Organizational Climates is that much of Erikson's work has been concentrated on the child's development of identity, and that Erikson has, in particular, dealt with identity during the transitional period from adolescence to maturity. The differences in the child's behavior as he goes through succeeding stages in developing a sense of identity are not entirely dissimilar to the differences that characterize the behavior of the principal and the teachers as we move from the Closed to the Open Climate. Indeed, we suspect that the types of interpersonal interactions that occur between the principal and the teachers within each of the six Organizational Climates may have counterparts in the patterns of interpersonal reactions that occur between the parent and the child in different families, or in the same family at different stages in the child's development. Some adolescents never succeed in achieving genuine maturity. In like fashion some faculty groups never succeed in achieving an Open Climate. The conditions that retard an individual's development toward maturity may be psychologically analogous to those that prevent a faculty's climate from becoming Open.

¹⁰⁷Erikson, "The Problem of Ego Identity," op. cit. See also, Stein, Vidich, and White, op. cit.

Let us note, for example, how Schachtel's discussion of focal attention and the emergence of reality¹⁰⁸ applies not alone to child development, but also to the behaviors which distinguish an Open Climate from a Closed one. Schachtel traces the infant's development in learning how to apprehend the "reality" of the "object world":

The child's exploration of the object world depends not only on the continued availability of the objects but also on the child's relative freedom from too strong need or anxiety tensions. The emergence of the object world is inseparably linked to the temporary abeyance of needs. In the infant, this abeyance is brought about by the satisfaction of needs through the mothering one. But, in the course of development, it is also increasingly brought about by the child's capacity to delay need satisfaction. The more secure the infant or child feels in being able to depend on the mother for eventual need satisfaction--and, later, on his own capacity to satisfy his needs--the more adequately this capacity to delay need satisfaction is likely to develop. Focal attention is the instrument which plays a decisive role both in the development of the capacity for delay and in the grasp of reality, of the object world. Only by means of focal attention do distinct objects emerge from the impinging environment so that they can be perceived and understood as independent of human needs. This is possible only because the rest of the field is excluded for the duration of the act of focal attention--that is, the claim of all other needs and impulses for attention is delayed or abated.¹⁰⁹

Schachtel then differentiates between his view and Freud's:

In contrast to Freud's view, I believe that thought has two ancestors rather than one--namely, motivating needs and a distinctively human capacity, the relatively autonomous capacity for object interest. Focal attention is the tool, the distinctively human equipment, by means of which the capacity for object interest can be realized. There is no proof that the wish for need satisfaction alone would ever lead to object perception and to object-oriented thought--that is, to a relatively objective view of reality. On the other hand, it can be shown that the more urgently need-driven perception and thought are, the less able they are to grasp and understand the object.¹¹⁰

¹⁰⁸Ernest G. Schachtel, *Metamorphosis* (New York: Basic Books, Inc., 1959). What Schachtel describes as focal attention is identical to what Fromm has described as "productive" thought.

¹⁰⁹*Ibid.*, pp. 266-67.

¹¹⁰*Ibid.*, p. 268

Finally, we quote further from Schachtel's analysis of the relation between focal attention and the individual's achievement of a sense of identity:

The development of focal attention and the emergence of the object world presuppose relative freedom from basic need tension, so that the object can be perceived under many different aspects, rather than apprehended merely as something that will satisfy hunger or that arouses fear and has to be fled from. And even after focal attention is fully developed and the environment is perceived as consisting of distinct objects, the need-driven (as opposed to the object-interested) perceiver or thinker will not see the object as fully in its own right as will the person who contemplates it in relative freedom from acute need tension. Curiosity, the desire for knowledge, the wish to orient oneself in the world one lives in--and finally the posing of man's eternal questions, "Who am I?" "What is this world around me?" "What can I hope for?" "What should I do?"--all these do not develop under the pressure of relentless need or of fear for one's life. They develop when man can pause to think, when the child is free to wonder and to explore. They are not, as Freud would have us believe, merely detours on the path to gratification of basic biological needs, any more than thought is only a substitute for hallucinatory wish fulfillment. They represent man's distinctive capacity to develop interest--the autonomous interest which alone permits the full encounter with the object . . . The relation of autonomous interest to need-dominated interest is similar to the relation of love to sexual desire, and to neurotic need of the "love-object." Like love, autonomous object interest is potentially inexhaustible and lasting, while need-dominated interest subsides with the satisfaction of the need and revives only when the need tension, such as hunger or sexual desire, rises again. Moreover, while need satisfaction, according to Freud, is related to tension discharge, both love and object interest find their fulfillment not in a discharge of tension but, rather, in the maintenance of it, in sustained and ever renewed acts of relating to the beloved person or to the object of interest.¹¹¹

Thus Schachtel shows that in order to develop the focal attention required for the apprehension of reality, the child must be at least temporarily free from need-driven interest. He must be able to count on the dependability of his mother (or a mother surrogate), and he must be able to experience an assurance of some stability in the structure of

¹¹¹ Ibid., pp. 273-75.

events around him. The teddy bear or the favorite rattle must be there. The story that his father reads to him each night before he falls asleep, must be read night after night without a word being left out or changed. In brief, before the child can attend to the world with focal attention, he must be at least relatively free from anxiety-driven, need-dominated attention.

Likewise, in regard to the Organizational Climate of schools, the principal and the teachers are not able to deal with each other openly and to apprehend the school's tasks with focal attention unless the members' need-dominated attention is minimized. If, for example, the principal's personal need for affection causes him to lavish Consideration on the teachers, then his need-dominated attention prevents him from attending focally to the "reality" of the school's problems. Indeed, the OCDQ subtest of Thrust is probably an index of the principal's freedom from need-dominated attention. (Contrariwise, high Production Emphasis may represent a need-dominated attention which detracts from the reality-centeredness of his leadership. Argyris' "reality-centered leadership" thus refers to focal attention as opposed to need-dominated attention.) Furthermore, the factorial structure of the Thrust subtest shows that it contains both Consideration behavior and behavior which provides the teachers with a general "structure of the field," including a definition of the limits within which leadership acts can be initiated. Thus, Thrust would seem to serve as a counterpart within the group for the parents' behavior which Schachtel suggests is required by the child in order that he may apprehend reality focally. In similar fashion, the Esprit subtest would seem to reflect high focal attention as opposed to need-dominated attention.

Principals with high Thrust have the ability to satisfy the teachers in respect to task-achievement and social-needs; hence, the teachers' focal attention can be directed toward teaching. When teachers describe their principal as high in Thrust, they are saying that he is instrumental in satisfying their needs. Furthermore, high Esprit shows that the teachers have enjoyed satisfaction in their past achievement. But if the principal is described as low in Thrust, the teachers evidently by-pass the principal and seek satisfaction of their needs in their own way. This results in a diffuseness, in that different teachers follow different paths in search of this satisfaction. These individual searches are not always consonant with the goals of the organization; each teacher attempts to gain satisfaction in his own way, thus reducing the focal attention which he can direct to teaching itself.

The impact of Schachtel's argument is clear: the apprehension of reality--or if you will, the authenticity of behavior--is inversely related to the stress of need-dominated attention. We would hold to this same argument in respect to the Organizational Climates: the greater the need-dominated attention among the faculty members, the less Open the climate.

Naturally, we do not imply that the concept of authenticity and Schachtel's concept of need-dominated attention versus focal attention, exhaust the possible ways of "explaining" the behavior that we find in the Closed Climates. For example, we encounter many principals who give every evidence of being "authentic" and of not being at the mercy of need-dominated attention, but who nonetheless behave in ways which do not facilitate an Open Climate. In some cases, their short-comings can be attributed to low Thrust. But when we look behind this "explanation" we are inclined to suspect that the Thrust of these principals is low mainly

because they lack the intellectual ability and the professional skills that their jobs demand. The principalship is a very complex job that entails many requirements of which these men have been completely unaware. In short, they never had "what it took."

To summarize our comment on authenticity, we repeat that this is not an easy concept to deal with. But the difficulty of dealing with it is not sufficient excuse for evading the issue, or for categorically dismissing the concept.

* * * *

There is one further point about our perspective on Organizational Climates that we had better clarify. Methodologically, this point is related to the difficulty that we have just discussed in respect to measuring the "authenticity" of behavior. A central theme of the present study is the distinction between an Open Climate and a Closed one. This dichotomy between an Open Climate and a Closed Climate is one which we imposed upon the data. We did not discover it lying somewhere "out there"; we "invented" it. And obviously, in the course of defining these two extreme examples of Organizational Climates we, as investigators, have moved perforce from the level of description to the level of evaluation. Yet the approach which we have used will need to be evaluated not so much in terms of whether the Organizational Climate of one school is really Open, while that of another is Closed, but rather in terms of the hypotheses which can be generated from the concept of Openness versus Closedness and the amenability of these hypotheses to empirical testing.

In Table 8 (p. 79) we have listed the six prototypic profiles by which we have described the six Organizational Climates. We have said

that these climates have been ranked in respect to Openness versus Closedness. But we fully recognize how crude this ranking is. As is the case in most methods of ranking or scaling, we are much more confident about the climates described at each end of this listing than we are about those described in between. Initially, the listing in Table 8 was made principally in respect to scores on the subtest Esprit, but this ranking has subsequently been corroborated by the loadings on Profile-Factor I (see Table 7, p. 76).

Furthermore, we must emphasize the point that although our ranking assumes that an Open Climate is more desirable than a Closed one, we cannot conclude that the principal and teachers in a given school do actually prefer an Open Climate to a Closed one. It is entirely possible that a particular faculty can achieve, within a climate less than Open, a degree of Esprit sufficient to make them reluctant to make changes in the organization, even though such changes may hold the promise of increasing the group's Esprit and of providing the group members with conditions that would allow their behavior to become increasingly "authentic."

It is apparent that we have been grappling with three concepts which are closely related: the Openness of the Organizational Climate, the scores on Esprit and indices of "authenticity." Although we have noted the similarity among these three concepts, we have not been equally successful in delineating the differences among them. At this juncture the best that we can do on this score is to make a few guesses that we hope will be informed guesses. We already have noted the need for distinguishing between authenticity as perceived by the participants in a situation and authenticity as evaluated by external, essentially "absolute," criteria. We surmise--although we are by no means certain--that Esprit

may be an index to authenticity as perceived by the participants, while Openness may be an index to authenticity as evaluated in a more "independent" way. But no matter what we may guess about the relationship among these three concepts, Openness, Esprit and Authenticity, the important task that lies ahead is to devise ways for defining each of these concepts operationally, and for then differentiating them. The concept of constructive alternativism which has been developed by Kelly¹¹² gives us a lead on how we can attack this problem:

We come now to a more difficult point. I must confess that I find this point hard to explain to my students and colleagues. The discussion usually starts with the innocent question, "Do you envision the personal construct as a dichotomy or as a continuum?" My answer is, "I envision it as a dichotomy." But when I give this answer trouble starts. It appears to my listeners that I have said that human behavior must conform only to stereotypes and that everything in the world is judged as either black or white--never in shades of gray. This, of course, is not true.

I think I am beginning to understand what the root of the difficulty is. Most of us think about psychological matters concretely rather than abstractly. When we think of the form of human behavior we think of reflexes, of material learned, of decisions made, much as the child who, when he thinks of the mathematical value "four," thinks of "four apples," "four pieces of candy," "four pencils," or "four wheels."

Perhaps if we step outside the field of psychology for a moment we can make sure we have recovered our ability to think abstractly. Let us step into the field of geography. Consider the geographical construct of "north versus south." This is a dichotomous construct, and it is abstract. As far as the construct itself is concerned, there are no "partial norths" or "partial souths" crammed in between "north" and "south."

However, it is a simple matter to use this dichotomous construct to create an array of objects ranged from north to south. All we have to do is to take advantage of the fact that the construct is abstract, and therefore readily available for use in a wide variety of circumstances. We may then apply it sequentially to the different objects we want to place in the

¹¹²George A. Kelly, op. cit.

array. But the array of objects we have thus set in order is not the construct; it is only one kind of concrete explication of the construct.¹¹³

It is in this sense that we refer to Openness versus Closedness in Organizational Climates as a dichotomy. We have used this dichotomous construct to create an array of climates ranged from Open to Closed. But we must reiterate Kelly's point: "But the array of objects we have thus set in order is not the construct; it is only one kind of concrete explication of the construct." In Kelly's terms, what we have done up to this point is to use a single axis of reference¹¹⁴ as a basis for defining Openness versus Closedness. The six climates that we have delineated represent one concrete explication of the Open-Closed construct, but this explication by no means exhausts the alternatives by which we can explicate concretely this same construct. Accordingly, the similarities and the dissimilarities among the three concepts with which we have been dealing, Openness, Esprit and "authenticity," can be checked empirically. In each instance we will need to devise several sets of indicators which we can then use as presumptive measures for each of these three constructs. To such extent as subsequent research shows that the axes of reference of any two or more of these concepts do not coincide, we must conclude that the concepts are operationally different. But all judgments that we make on this score must be made empirically, not by arm-chair methods.

Throughout the course of the present report we have given suggestions

¹¹³From George A. Kelly, "A Mathematical Approach to Psychology," prepared at invitation of the Moscow Psychological Society (U.S.S.R.) and read at Moscow, April 10, 1961, pp. 12-13.

¹¹⁴We use the term "axis of reference" as Kelly uses it. (See, Kelly, The Psychology of Personal Constructs, op. cit., Ch. III, Vol. I.) "Axis of reference" within this context does not correspond precisely to the "axis" concept in factor analysis.

for further research on the OCDQ. Now let us become more specific and suggest nine sets of hypotheses which pertain directly to the dichotomy between Openness and Closedness, making certain, of course, that these hypotheses can be tested empirically. Tests of this kind can help us in "fixing" the axis of reference by which Openness is defined, and will allow us to determine more accurately the relationship between Openness, Esprit and Authenticity.

1. Using the OCDQ, select two samples of elementary schools: one composed of schools that score high on Openness; the other, of schools that score low on Openness. We would hypothesize that the principals and the teachers from these two sets of schools would differ in respect to concretism,¹¹⁵ intraception, and the ability to accept and deal with their own emotional impulses.¹¹⁶ Specifically, we would expect that the faculty in the Open Climate would, on the whole, score lower in concretism, higher in intraception, and higher in the ability to accept and deal with their own emotional impulses.

We could also administer to the two samples such an instrument as the Edwards Personal Preference Schedule.¹¹⁷ Here we would expect that the faculty members in the Open Climate, as compared to those in the Closed Climate, would score higher on Achievement, Autonomy, Heterosexuality

¹¹⁵We use this term in the sense in which it was introduced by Goldstein. See Kurt Goldstein and Martin Scheerer, "Abstract and Concrete Behavior: An Experimental Study With Special Tests," Psychological Monographs, Vol. 53, No. 2 (1941).

¹¹⁶This ability, of course, could be tested by an index such as the Rorschach Erlebnistyp, or by other analyses of the M and C scores.

¹¹⁷Allen L. Edwards, Edwards Personal Preference Schedule (New York: The Psychological Corporation, 1957 Revision).

and Intraception, and would score lower on Deference, Order, Dominance, Affiliation and Abasement.

If it were possible to conduct a longitudinal study on these two samples of schools, we would further hypothesize that over the course of time the differences between the first and second testing of the measures and indices which we have proposed would become more pronounced. In short, we suggest that there may exist an internal generative effect which tends to make an Open Climate become increasingly more Open while a Closed Climate becomes increasingly more Closed.

II. Again, let us deal with the same two samples of schools: the one characterized as Open, the other as Closed. In keeping with Kelly's role-construct theory,¹¹⁸ and in accord with Beiri's study of complexity-simplicity as a personality variable,¹¹⁹ we would hypothesize that the principals and the teachers in each of these climates would differ on the complexity-simplicity variable. What we are suggesting here is that group membership within an Open Climate may tend to make it easier for individual members to develop a more complex and a more flexible set of axes of reference for their personal role-constructs.

III. Dealing again with the same two samples of schools, we would hypothesize that the role definitions and the role expectations will be more highly specified in the Closed Climate than in the Open. This

¹¹⁸George A. Kelly, The Psychology of Personal Constructs, op. cit.

¹¹⁹James Bieri, "Complexity-Simplicity as a Personality Variable in Cognitive and Preferential Behavior," in Functions of Varied Experience, eds., Donald W. Fiske and Salvatore R. Maddi (Homewood, Ill.: Dorsey, 1961). The intellectual antecedents for Bieri's study include the work of such men as Kelly, Lewin, and Piaget.

hypothesis can be tested, too, by using attitudinal-type questionnaires which tap the areas of role definition and role expectation.

IV. Elsewhere, Halpin has discussed "Muted Language"¹²⁰ and the importance of "mixed messages." "Mixed messages" refer to the discrepancy between what a man says with his words and what he communicates with his voice, gestures and bodily movements.¹²¹ We believe that it is possible to devise methods by which we can determine the perceived congruence between the verbal and the non-verbal messages transmitted by an individual. We would hypothesize that we would find a greater congruence between these two types of messages within an Open Climate than within a Closed one.

V. Miller has devised a way of analyzing the written compositions of elementary-school principals.¹²² We suggest that a useful study could be conducted in comparing these indices for a sample of principals drawn from Open Climates and a sample drawn from Closed Climates. It is possible that such a comparison of written compositions could be extended in a further way. Anyone who reads through the 232 compositions which Miller

¹²⁰Andrew W. Halpin, "Muted Language," op. cit.

¹²¹A provocative example of "muted cues" can be seen in the case of a certain well-known educational psychologist whose comments on most subjects are knowledgeable and insightful. But whenever the conversation turns to one of his two bêtes noires--criticism, in any form, of teacher-training methods or of the quality of students in Colleges of Education--his behavior suddenly changes. His voice reaches a higher pitch and loses timbre. What comes out sounds like a pre-recorded "commercial." One is suddenly reminded of the image of an excommunicated Catholic who, after an injection of sodium amytal, proceeds to recite by rote, fragments from the catechism which he had memorized as a child.

¹²²Marcella M. Miller, A Psychological Analysis of Written Compositions of Elementary-School Principals, unpublished M.A. thesis, Department of Educational Psychology, University of Utah, June 1961.

used in her study,¹²³ is struck by the banality of these compositions. They are saturated with "pedagese," cant, and jargon. Moreover, they are highly redundant. On this score it might be worth-while to compare the written compositions of principals and teachers from Open and Closed Climates.¹²⁴ We would hypothesize that the faculties in the Closed Climates, in contrast to those in the Open Climates, would introduce into their compositions a higher percentage of clichés, slogans and educational platitudes.

VI. Seeman's measures of status-attitudes and the indices he suggests for measuring inauthenticity in a leader's behavior could be used with samples of faculty groups from the Open and Closed Climates. In explaining why the concept of inauthenticity is being applied to leadership, Seeman notes, "The essence of inauthenticity in these terms is the use of irrelevant or inappropriate status references, that is, overreference to the fact of a given status incumbency."¹²⁵

Concomitantly, one might also secure measures of the teachers' and the principals' perception of the marginality of their professional roles. Seeman suggests the hypothesis that:

... good leaders are good, partially because they have wrestled effectively with the "marginality" of their position--that is, they have succeeded in placing their status and the stereotypes that go with it in a perspective which permits them to avoid

¹²³Miller secured these compositions from the sample of principals which Hemphill, Griffiths, and Fredericksen (*op. cit.*) used in their study.

¹²⁴A similar comparison could be made through the content analysis of taped interviews obtained from these principals and teachers.

¹²⁵Seeman, *op. cit.*, p. 103.

some of the varieties of inauthenticity which are indicated here.¹²⁶

Seeman doesn't provide an operational definition for "wrestling effectively with the marginality of their position." But he also states flatly that he has not clarified to his own satisfaction how this notion and such concepts as those of over-reference and overconformity are to be explicated operationally. Difficult as the task of defining these concepts may be, it probably is not insurmountable.

Assuming that suitable indices can be invented to measure a teacher's or a principal's attitudes toward the marginality of his professional role, we would hypothesize, along with Seeman, that the "good" leaders, i.e., the principals in the Open Climates in contrast to those in the Closed, are less preoccupied with their marginality. We would surmise, too, that the leaders in the Open Climate also will be found to exhibit less status-anxiety.

However, if we are to study status attitudes and attitudes toward marginality we also will need to take into account the social and geographical setting of the school. For example, do such attitudes differ between a sample of suburban schools and a sample of city or village schools in which the status of the teacher is clearly above the status of the parents of the children whom she teaches?

VII. We believe that useful information could be secured by comparing two samples of principals in respect to risk-taking. The principals from

¹²⁶Seeman, *op. cit.*, p. 104. This skill in placing one's status in perspective is illustrated by a remark which Adlai Stevenson made shortly after he conceded the election to Dwight Eisenhower. He was asked to give a speech to a group at the Democratic headquarters. His opening line was, "A funny thing happened to me today when I was on my way to the White House." Can one imagine Richard Nixon making a similar remark after his defeat by President Kennedy?

these two samples--the first composed of principals described as high on Thrust and thus representing an Open Climate; the second composed of principals described as low on Thrust, and thus representing a Closed Climate--could be tested in a laboratory situation such as has been described by Scodel, Ratoosh and Minas.¹²⁷ We would hypothesize that willingness to take risk is associated positively with Thrust.

VIII. Crutchfield reports a study¹²⁸ in which he has adapted Asch's¹²⁹ technique with the auto-kinetic phenomenon for the testing of conformity in a sample of professional men. He found large and reliable differences among the men in their willingness to yield to group pressure. Furthermore, the correlations between these conformity scores and various personality variables are statistically significant. Crutchfield's findings are especially meaningful in respect to the Organizational Climate findings. Accordingly, we would hypothesize that the conformity measure that Crutchfield has devised will yield significant negative correlations with the Thrust scores by which the teachers describe the principal. Among the personality variables which Crutchfield used was Barron's¹³⁰ ego-strength scale which predicts response to psychotherapy. We would predict a positive correlation between this ego-strength measure and the OCDQ Thrust scores.

¹²⁷Alvin Scodel, Philburn Ratoosh and J. Sayer Minas, "Some Personality Correlates of Decision Making under Conditions of Risk," Behavioral Science, IV (1959), 19-28.

¹²⁸Richard S. Crutchfield, "Conformity and Character," The American Psychologist, X, No. 5 (May 1955), 191-98.

¹²⁹Solomon E. Asch, Social Psychology (New York: Prentice Hall, 1952).

¹³⁰Frank Barron, "An Ego-Strength Scale Which Predicts Response to Psychotherapy," Journal of Consulting Psychology, XVII (1953), 327-333.

IX. Finally, we need to comment on the possible relationship between the present OCDQ findings and Ryans' exceptionally comprehensive study of the characteristics of teachers.¹³¹ One part of this study was the Teacher Characteristics Study which called for two observations of each teacher, the observations being made at different times by different observers.

To quote:

As a result of the direct observation and assessment of teacher classroom behavior and subsequent statistical analyses of the measurement data, several interdependent patterns of teacher behavior were suggested. Three in particular appeared to stand out in separate factor analyses of elementary and secondary teacher data:

TCS Pattern X_0 --warm, understanding, friendly vs. aloof, ego-centric, restricted teacher behavior.

TCS Pattern Y_0 --responsible, businesslike, systematic vs. evading, unplanned, slipshod teacher behavior.

TCS Pattern Z_0 --stimulating, imaginative, surgent vs. dull, routine teacher behavior.

It is of interest to observe that these behavior syndromes, TCS Patterns X_0 , Y_0 , and Z_0 , are not entirely unique to the Teacher Characteristics Study. They are supported not only by rational analysis of the teaching process but also by reports of other factor analyses of teacher behavior data which have appeared in the literature during recent months.¹³²

Among elementary school teachers, the Patterns X_0 , Y_0 , and Z_0 were highly intercorrelated, and each also seemed to be highly correlated with pupil behavior in teachers' classes.¹³³

We must note, too, Ryans' report of the differences between two groups of teachers: one composed of teachers who had received assessments one standard deviation above the mean on all three patterns (X_0 , Y_0 , and Z_0); the other, of teachers who had received assessments one standard deviation

¹³¹David G. Ryans, Characteristics of Teachers: Their Description, Comparison, and Appraisal (Washington, D.C.: American Council on Education, 1960).

¹³²The similarity between the three TCS Factors and the three OCDQ test factors is evident.

¹³³Ibid., p. 382.

or more below the mean.

There was a general tendency for high teachers to: be extremely generous in appraisals of the behavior and motives of other persons; possess strong interest in reading and literacy affairs; be interested in music, painting, and the arts in general; participate in social groups; enjoy pupil relationships; prefer nondirective (permissive) classroom procedures; manifest superior verbal intelligence; and be superior with respect to emotional adjustment. On the other hand, low teachers tended generally to: be restrictive and critical in their appraisals of other persons; prefer activities which did not involve close personal contacts; express less favorable opinions of pupils; manifest less high verbal intelligence; show less satisfactory emotional adjustment; and represent older age groups.¹³⁴

Obviously, Ryans' study and the present one approach the study of teachers from different points of view. Nonetheless, the differences between his "high" and "low" teachers seem to correspond, at least in part, to the differences which we would expect to find between the behavior of teachers in Open and Closed Climates.

IMPLICATIONS

In the preceding critique we have discussed many of the specific implications of the present findings and have proposed nine types of research studies which should enable us to "get a better fix" on the difference between Open and Closed Climates. Consequently, in this final section we will confine our brief discussion of implications to a more general level.

In sum, we have devised the OCDQ and have delineated six Organizational Climates of schools. At the substantive level, what we have done on this score will, we hope, lead to an increased understanding of organizations. Furthermore, the techniques and the constructs which we have

¹³⁴Ibid., pp. 397-8.

developed should prove applicable to organizations other than schools. We suspect that the six climates which we have delineated will also be found, for example, in industrial corporations, government agencies, and hospitals. The adaptation of the OCDQ to the requirements of organizations other than schools should not prove to be a difficult task.

Furthermore, we believe that the behavior defined by the OCDQ subtests and the differences among the six climates have direct pertinence for the study of "Family Climates." Indeed, the three profile-factors which we have identified (p. 102) seem to be consistent with present knowledge from the field of child psychology and psychoanalysis about the kinds of parent-child relations that best promote psychologically healthy growth for the child.

But if we leave the substantive level, and for the moment disregard the detailed findings of the present research, then two conclusions stand out above all others. The first is the concept of openness versus closedness in respect to Organizational Climates; the second, the recognition that future research on Organizational Climates should take into account the issue of "authenticity" in behavior.

As we have noted throughout the present report, the concept of openness versus closedness in Organizational Climates is directly related to similar concepts about the openness or closedness of an individual's personality. The mechanisms which produce neurotic responses in the human individual appear to operate in much the same way within a group. Consequently, we believe that graduate training for school executives should include at least one course, or seminar, which will provide these administrators with insight into the behaviors that are associated with different Organizational Climates. Such a course should not be confined to the social

psychology of groups, or to orthodox material on management; it should include an introduction to those central concepts of psychoanalysis and clinical psychology which are as applicable to groups as they are to the individual patients.

But what implications does our concern about authenticity have for public education? We have noted that some elementary schools possess climates that are more Open than others and we have inferred that this Openness seems to be an index of greater "authenticity" on the part of the principal and the teachers alike.

Now, in conclusion, we are forced to ask a few embarrassing questions. How much of the lack of Openness and the lack of "authenticity" that we find in these elementary schools is associated not merely with the school itself, but with the essential nature of the teacher-training process in American education? To what extent should we be concerned about the pool from which candidates for degrees in education have been drawn? Is there evidence to suggest that those students who choose teaching as their profession possess personality characteristics which predispose them to the very kinds of behavior that characterize the Closed Climate?

A study by Guba, Jackson and Bidwell¹³⁵ provides some evidence on this score. These investigators gave the Edwards Personal Preference Schedule to samples of teacher-trainees and veteran teachers. Guba and his colleagues note:

The findings showed that the needs most characteristic of this group of teachers were high deference, order, and endurance and low heterosexuality, dominance, and exhibition. Marked variations, however, were found among subgroups divided by sex,

¹³⁵Egon G. Guba, Philip W. Jackson, and Charles E. Bidwell, "Occupational Choice and the Teaching Career," Educational Research Bulletin, XXXVIII, No. 1 (January 14, 1959), 1-13 and 27.

teaching level, and years of experience. The six needs may probably be taken as representative of an emergent occupational pattern found most prominently among what will be termed the "veteran teachers," that is, teachers of ten or more years of experience. Conspicuous by their absence are such needs as achievement, intraception, and nurturance, which might have been expected for a teacher group. Interestingly, the characteristics seem to fit the cultural stereotype of the teacher as sexually impotent, obsequious, eternally patient, painstakingly demanding, and socially inept.

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Somehow, through educational experiences the initial personality differences of teachers coalesce into a common personality pattern. Whether or not this process occurs by genuine change in nonconformist personalities or by attrition as nonconformists drop out remains a moot question.

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The significance of these data is undoubtedly very complex. Clearly, though, teachers who have personalities like that of the veteran teacher are valued by principals. Yet apparently the more one becomes like the typical teacher in terms of need structure, the less likely one will be satisfied, feel effective, or have confidence in the principal's leadership. It is difficult to advance reasons for this apparent anomaly. One might hypothesize that the deferent, orderly, enduring teacher is a boon to the administrator, an asset to someone who is concerned with the effective functioning of a social institution. Yet these very attributes might be linked with a rather negative self-image. One is reminded here of the stereotype of the office clerk whose services are highly valued yet who is so self-deprecating that he is afraid to ask his boss for a raise. It might also be conjectured that the data reflect a real change in satisfaction, effectiveness, and confidence as the teacher realizes more and more how far from ideal everyday teaching practices and school procedures really are. Unfortunately, the dynamics of the process involved in the changing need structure experienced by the teacher remain hidden for the present; much work is necessary before the questions posed by these findings are answered.¹³⁶

Obviously, Guba, Jackson and Bidwell's findings suggest that the candidates who select teaching as a career are not those who are likely

¹³⁶ Ibid., pp. 4-12 and 27.

to facilitate Openness in the Organizational Climate of their schools.¹³⁶

Furthermore, when we look at the attitudes of college students toward courses in education, the picture is not encouraging. When we hear students on our campuses refer to courses in education as "Mickey Mouse courses," what does this say about the "authenticity" of the programs that we now provide for prospective teachers? We have repeatedly listened to highly intelligent students who have started to follow a teaching career but who, after a few courses in education, have declared, "I quit. I can't stand any more of that pap."

When we find correlations of chance order between the number of graduate courses which elementary principals have taken and several criteria of the principals' "effectiveness"¹³⁷ in their jobs, what does

¹³⁶Guba, Jackson and Bidwell's findings take into account the differences between new teachers and veterans. As noted earlier, we have not analyzed the present data in respect to the age or the professional training of the teachers and principals. It is important that such an analysis be made, but it is beyond the scope of the present report. Nor at this stage were we ready to analyze "input" changes over the past few decades (i.e., the difference between the "quality" of new members of the teaching profession and that of "veterans" who received their training, say, ten or twenty years ago. Changes in input can be analyzed, too, in respect to social-class origins and certain other psychological and sociological variables). Some of these changes in input are related to broad changes in the composition of the labor market and the greater current competition for "brains," while other changes are associated with geographical and ecological differences. Indeed, the changes in the quality of input in one State sometimes are achieved at the expense of negative changes in another. Yet, although we can speculate about the ways in which the input has changed, we still do not have at hand sufficient data to support these speculations. In any event, it seems doubtful to us that generalizations on this score, when made for the United States as a whole, will be especially useful. We surmise that such analyses need to be made first at the state and the regional level. Whether these analyses can then be combined in a meaningful way must be determined empirically.

¹³⁷Hemphill, Griffiths and Fredericksen, op. cit.

this tell us about the "for realness" of current graduate programs in educational administration?

We can ask similar questions about the effect of the customary method for certificating teachers and administrators. If a teacher's certification and, indeed, his subsequent promotions depend upon a sheer count of how many courses he has taken in prescribed areas, what effect does this procedure have in reinforcing non-authentic behavior among school personnel?

But above everything else, we must remember the purpose of our schools: they exist for our children. We know, too, that children interiorize their value-systems through a process of identifying with those adults in their immediate environment who provide ego-ideals that the children can respect. But what happens when the range of available ego-ideals is constricted? Or more pointedly, what is the price that a closed, non-authentic climate exacts from the children themselves?

To conclude then: we believe that the OCDQ provides a useful technique for describing the Organizational Climate of schools and that further research with it is warranted. But an even stronger conclusion emerges from our experience with the present study. We believe that one of the most important areas to be investigated is that of authenticity. The three questions for which we must seek answers are these: What are the conditions within the profession of education which reinforce authenticity of behavior? What are the conditions which reinforce inauthenticity? What changes are needed in the profession--in the recruiting and training of teaching candidates, and in the administration of schools--to increase the likelihood that the profession as a whole will become more "authentic"?

Long-range programmatic research in this area will be complex and will demand a great deal of stamina from the investigators. They probably

will be crucified by the members of the very profession which they are trying to help. But no matter. The almost insurmountable difficulty of the problem is not sufficient reason for postponing our attack upon it.

Appendix A

COMPUTER PROCEDURES

In developing the OCDQ we devised a data-collection technique which expedited the statistical analysis of the findings and which gave us an economical way for processing large quantities of data. We formulated several computer "programs" and data-processing routines, and integrated these into a system which minimizes clerical chores. More important, this data-processing system eliminates many sources of human error, and hence assures us that the analyses will be accurate. Nonetheless, we built into the system several simple precautions which serve as "check points" at several critical phases of the analysis: at each step, any mechanical or human errors that may have accidentally intruded, are rectified before we go on to the next step in processing the data.

The key to the data-processing system is that we present the OCDQ in the format of a set of IBM mark-sense cards. We have followed the general plan devised by Hood,¹³⁸ but have modified his plan in that we have printed the OCDQ items directly onto the IBM cards and have used the set of cards as the questionnaire, itself.

The data-processing system which we used is outlined below:

1. The 64 OCDQ items were typed on multilith mats and were then printed on both sides of a set of six IBM mark-sense cards.
2. The items were printed on the IBM cards in the sequence which we decided would best facilitate the subsequent regrouping of the items into appropriate subtests after the mark-sensing responses had been "read" and punched.

¹³⁸ See Paul D. Hood, et al., Crew Member Agreement on RB-47 Crew Operating Procedure (Research Report AFPTRC-TN-57-64, ASTIA Document No. 126395), Lackland Air Force Base, Texas, (May 1957), p. 49.

3. We devised a board-wiring diagram which specified into which subtest each of the items was to be punched. This diagram made it easy for the machine operator to wire the board correctly, and to check on whether the machine was functioning properly. This procedure of immediately allocating each item to its proper subtest expedited the subsequent analysis of the data.

4. To facilitate the handling of the IBM cards, each card was pre-coded with a punched identification number. First, all identical questionnaire cards were grouped together, forming six decks (one for each "page" of the questionnaire). All the cards within each deck were numbered consecutively to identify the card of each individual respondent. The cards then were sorted by respondent number, and the six cards with the same respondent number were grouped into a set which formed a single, complete questionnaire. Thus, each set of cards (i.e., each questionnaire) had its own identification number. So that we could separate the sets easily, the corner which we cut on the first card in each set was different from the corner which we cut on the remaining cards.

5. After the OCDQ had been administered, a clerk checked each card to erase extraneous pencil marks and to insure that each question had been marked clearly. For example, the marks which some respondents had made were too light for the machine to score them; the clerk darkened these responses. Next, a school identification number was punched into the cards, so that they could readily be sorted by school.

6. The cards were fed into a machine (IBM 407) for mark-sense punching. Following the punching procedure, the cards were sorted and

checked for double or missing punches; cards having either of these errors were corrected and re-run. The operator then "listed" the responses punched into the cards and spot-checked them with the original responses.

7. Because electrographic pencil marks can interfere with the operation of data-processing machines, the next step was to reproduce the punches from the mark-sense cards onto regular IBM cards. We therefore transferred the data from several mark-sense cards onto a single IBM card--a condensed and easily manageable "data summary card." At each step of card-punching or reproducing, the new decks were "listed" by the IBM 407 and then spot-checked against the "listing" of the old cards.

8. A program was written for the Burroughs 205 (Datatron) which computed and printed out the raw scores for each subtest from the "data summary cards." The raw scores were then converted to standard scores for each individual respondent.

9. To conduct other analyses of the data, we had the Datatron punch the standard scores onto a new set of IBM cards. Our next step was to use these data-summary cards to compute subtest intercorrelations, to print out the intercorrelation matrix, and to proceed with a principal-components, or a centroid factor analysis, of the intercorrelation matrix. A varimax rotational solution was computed for the eight factors which we chose to rotate.

10. Finally, to obtain profile scores, the cards were sorted by school. Two profile cards for each school composed the school profile: the first card contained the subtest scores for the principal, and the second recorded the mean subtest scores for the teachers. The two cards were listed together so that we could compare the two profile scores. The results were printed in two copies; one we retain ,

the other is forwarded to the particular school.

After we had finished the field work with the OCDQ, we belatedly discovered the IBM Porta-punch procedure. We therefore modified the procedure which we have just described so that teachers can now use IBM Porta-punch cards, and thus answer the OCDQ by punching their responses directly into the cards. However, the original procedure with mark-sense cards is less expensive and can be used if limited budgets preclude the use of the Porta-punch cards.

Furthermore, the items can now be printed onto the cards. When constructing a measuring instrument, it is cheaper to use typed multilith mats, particularly during the stage when one is iteratively selecting items that "work." Whenever new items need to be included in the instrument, one can simply type them onto a mat and then reproduce them on new IBM cards. While one is developing a questionnaire, multilith mats provide an inexpensive and an extremely flexible system which readily allows one to modify the measuring instrument.

Finally, we have introduced one other modification into the data-processing scheme. Simply stated, we have written a scoring program that gives the sum for any number of pre-selected columns--not necessarily in sequence (e.g., Columns 1, 7, 12, etc.). Furthermore, the raw scores are automatically standardized ipsatively or normatively (or both), and new cards are punched which contain the standardized scores.

Naturally, the data-processing system which we have outlined above is by no means the "ultimate" system; yet it is a step toward a more effective and more automatic method for processing data. These procedures have been extremely helpful to us in that they have eliminated many clerical chores.

The specific computer "programs" for the Burroughs 205 and the IBM 1620 computers which we have developed in the course of the present research are listed below:

1. Item Analysis. This program tabulates the number of responses to each alternative for each item in the questionnaire. The number of individuals who have not responded to the item is also recorded. If desired, the frequencies totaled for each item can be converted into percentages.
2. A Scoring Program. This program computes the subtest scores by summing the scores in pre-selected columns on the card. The columns to be scored need not be in sequence; indeed, they can be on different cards. Furthermore, this program will negatively score pre-selected items before computing the total score for a given subtest. After having obtained a sum for each individual respondent, the program next computes the average score for each subtest--using, of course, the appropriate N. Finally, the program computes a mean score for any specified group of individuals. For example, in order to obtain a school-mean score, the program averages the scores of all teachers in a given school.
3. Intercorrelation Matrix. A program was written to obtain the intercorrelations of 80 variables, regardless of the number of individual scores. This program will also compute the mean and the standard deviation for each variable. If desired, the program will also compute the squared sums of the correlations for each variable.
4. Centroid Factor Analysis. A program to compute a centroid factor analysis for a 35-variable intercorrelation matrix was written.

5. Principal-Component Factor Analysis. This program computes eigenvalues and eigenvectors for a 40-variable intercorrelation matrix. It converts the eigenvalues to factor loadings and then computes the communalities for each variable.

6. Varimax Rotational Solution. This program computes a varimax rotational solution for 40 variables and any number of factors.

7. Standard Scores. This program computes the means and the standard deviations for any number of variables and then converts these raw scores into any specified form of standard scores.

8. Profile Analysis. This program determines the degree of similarity between any given profile of scores and a set of six pre-selected profiles. Each profile is composed of 8 scores. When a profile is compared to one of the standard profiles, an absolute difference score is computed between each of its 8 scores and the corresponding score of the comparison profile. These 8 differences are summed to obtain a total "difference" score. Six "difference" scores are obtained as a given profile is compared, in turn, with each of the six comparison profiles. The lowest difference score is then printed out by the program to show which one of the six comparison profiles is most similar to the profile to be classified.

Appendix B

THE ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE (OCDQ)

Instructions for Administering the OCDQ

1. Be sure that the name of the school is recorded on each biographical card, and that you keep all the cards for each school together.
2. The principal should also answer the questionnaire. Some of the items may be difficult for him to answer, but ask him to do the best he can.
3. Check each teacher's cards to be sure that all the items have been marked, especially those on the back side of each card.
4. The teachers may laugh and joke about some of the items. This is all right, but please urge each teacher to answer as independently as possible.
5. Assure the teachers and the principal that their anonymity will be scrupulously protected and that they can feel free to be frank in describing the school.
6. It is best to have two people work as a team in administering the questionnaire, especially in passing out the cards and in checking them before each teacher leaves the meeting.

Instructions for the Teachers and the Principal

The person in charge of administering the OCDQ will give the following instructions to the faculty members:

You are all familiar with "personality" tests, and how a profile can be constructed to describe an individual's personality. In similar fashion we are attempting to measure the "personality" of your school. It is important that your answers be "Independent"; so, please do not discuss your answers with the other teachers.

As you will see, we are using a new method for administering questionnaires. We would like to have you mark your responses directly on IBM cards so that we can score them mechanically, thus reducing clerical costs and errors. There are a few points to remember as you mark your answers on the IBM cards.

1. Please read the card-marking instructions and note the example.
2. The scale used to describe each item is printed at the top of each card.
3. Please mark every item. This is a checking-procedure to insure that the machine has picked up every response. If you are not sure, guess; your first impulse is likely to be the most accurate.
4. Please do not make any extra marks on the cards; the machine cannot deal with items when marks appear in more than one slot.
5. If you need to change your answer to an item, please erase the old response completely, and then mark in the new answer.
6. There are questions on both sides of the card; so, please be sure that you have answered all the questions.
7. When you have finished, please align the cards so that all the corner cuts coincide. However, the cards do not have to be in a particular order because each card has an identifying number punched on it.
8. There is no time limit; when you have finished, please give your cards to the proctor, who will check them.
9. It will take you about 15 to 20 minutes to complete the questionnaire.
10. Please read the instructions now and be sure to answer the biographical items on the reverse side of the first card. You may begin immediately.

Card-Marking Instructions

Printed below is an example of a typical item found in the Organizational Climate Description Questionnaire:

Teachers call each other by their first names.

1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

1 2 3 4
0 0 0 0

In this example the respondent marked alternative 3 to show that the interpersonal relationship described by this item "often occurs" at his school. Of course, any of the other alternatives could be selected, depending upon how often the behavior described by the item does, indeed, occur in your school.

Please make your IBM pencil marks heavy and dark, as in the example. Try to keep the mark between the lines. PLEASE BE SURE THAT YOU MARK EVERY ITEM. PLEASE NOTE, TOO, THAT ITEMS ARE PRINTED ON BOTH SIDES OF THE CARDS.

The OCDQ (Form IV)

The items in this questionnaire describe typical behaviors or conditions that occur within an elementary-school organization. Please indicate to what extent each of these descriptions characterizes your school. Please do not evaluate the items in terms of "good" or "bad" behavior, but read each item carefully and respond in terms of how well the statement describes your school.

The descriptive scale on which to rate the items is printed at the top of each card. Please read the IBM Card Marking Instructions which describe how you should mark your answers.

The purpose of this questionnaire is to secure a description of the different ways in which teachers behave and of the various conditions under which they must work. After you have marked the cards we will examine the behaviors or conditions that have been described as typical by the majority of the teachers in your school, and we will construct from this description, a portrait of the Organizational Climate of your school.

ON THE BACK OF THIS CARD please note which categories apply to you by placing a mark in the appropriate space to the right of each item. Please remember that questions are printed on BOTH SIDES of the cards.

Biographical Information Card

School: _____
 (Write in the name of your school)

Position:	Principal	_____	Years of experience in education:	0-9	_____
	Teacher	_____		10-19	_____
	Other	_____		20-29	_____
				30 or over	_____
Sex:	Man	_____	Years at this school:	0-4	_____
	Woman	_____		5-9	_____
Age:	20-29	_____		10-19	_____
	30-39	_____		20 or over	_____
	40-49	_____			
	50-59	_____			
	60 or over	_____			

Questionnaire Items

1. Teachers' closest friends are other faculty members at this school.
2. The mannerisms of teachers at this school are annoying.
3. Teachers spend time after school with students who have individual problems.
4. Instructions for the operation of teaching aids are available.
5. Teachers invite other faculty members to visit them at home.
6. There is a minority group of teachers who always oppose the majority.
7. Extra books are available for classroom use.
8. Sufficient time is given to prepare administrative reports.
9. Teachers know the family background of other faculty members.
10. Teachers exert group pressure on non-conforming faculty members.
11. In faculty meetings, there is the feeling of "let's get things done."
12. Administrative paper work is burdensome at this school.
13. Teachers talk about their personal life to other faculty members.
14. Teachers seek special favors from the principal.
15. School supplies are readily available for use in classwork.
16. Student progress reports require too much work.
17. Teachers have fun socializing together during school time.
18. Teachers interrupt other faculty members who are talking in staff meetings.
19. Most of the teachers here accept the faults of their colleagues.
20. Teachers have too many committee requirements.
21. There is considerable laughter when teachers gather informally.
22. Teachers ask nonsensical questions in faculty meetings.
23. Custodial service is available when needed.
24. Routine duties interfere with the job of teaching.
25. Teachers prepare administrative reports by themselves.

26. Teachers ramble when they talk in faculty meetings.
27. Teachers at this school show much school spirit.
28. The principal goes out of his way to help teachers.
29. The principal helps teachers solve personal problems.
30. Teachers at this school stay by themselves.
31. The teachers accomplish their work with great vim, vigor, and pleasure.
32. The principal sets an example by working hard himself.
33. The principal does personal favors for teachers.
34. Teachers eat lunch by themselves in their own classrooms.
35. The morale of the teachers is high.
36. The principal uses constructive criticism.
37. The principal stays after school to help teachers finish their work.
38. Teachers socialize together in small select groups.
39. The principal makes all class-scheduling decisions.
40. Teachers are contacted by the principal each day.
41. The principal is well prepared when he speaks at school functions.
42. The principal helps staff members settle minor differences.
43. The principal schedules the work for the teachers.
44. Teachers leave the grounds during the school day.
45. The principal criticizes a specific act rather than a staff member.
46. Teachers help select which courses will be taught.
47. The principal corrects teachers' mistakes.
48. The principal talks a great deal.
49. The principal explains his reasons for criticism to teachers.
50. The principal tries to get better salaries for teachers.
51. Extra duty for teachers is posted conspicuously.
52. The rules set by the principal are never questioned.

53. The principal looks out for the personal welfare of teachers.
54. School secretarial service is available for teachers' use.
55. The principal runs the faculty meeting like a business conference.
56. The principal is in the building before teachers arrive.
57. Teachers work together preparing administrative reports.
58. Faculty meetings are organized according to a tight agenda.
59. Faculty meetings are mainly principal-report meetings.
60. The principal tells teachers of new ideas he has run across.
61. Teachers talk about leaving the school system.
62. The principal checks the subject-matter ability of teachers.
63. The principal is easy to understand.
64. Teachers are informed of the results of a supervisor's visit.
- *65. Grading practices are standardized at this school.
66. The principal insures that teachers work to their full capacity.
- *67. Teachers leave the building as soon as possible at day's end.
- *68. The principal clarifies wrong ideas a teacher may have.
- *69. Schedule changes are posted conspicuously at this school.

*These five items are merely "buffer" items used to fill out the IBM cards; these five items are not scored. The questionnaire scores are based on 64 items.

Scoring Instructions

Table 12 shows the items numbered as they appear in the questionnaire, but grouped into subtests. The items are scored on a point system from 6 to 9 points, with 6 points for an item marked "Rarely occurs," and increasing to 9 points for "Very frequently occurs." Those items indicated by a minus sign (-) are, of course, scored inversely.

To obtain the raw score for each subtest, simply sum the scores obtained by each respondent on all the items within the subtest, divide by the number of items, and round off this quotient to a two-digit number. The eight subtest scores that you now have are the "raw" scores for the individual respondents. To obtain the raw subtest scores for each school, compute the average, subtest by subtest, of the scores of all the respondents in the school (i.e., sum all the scores on each subtest and divide by the number of respondents).

The next step is to standardize the scores normatively with respect to the means and standard deviations for the total sample's scores on each subtest. Table 13 shows the means and standard deviations of the present sample of teachers (N=1151).

To standardize the raw scores for each subtest, simply enter the appropriate mean and standard deviation in the following standardization formula and solve for X_s , the standard score with respect to a mean of 50 and a σ of 10.

Table 12

OCDQ ITEMS THAT COMPOSE FOUR SUBTESTS: TEACHERS' BEHAVIOR

I - DISENGAGEMENT

- 2. The mannerisms of teachers at this school are annoying.
- 6. There is a minority group of teachers who always oppose the majority.
- 10. Teachers exert group pressure on non-conforming faculty members.
- 14. Teachers seek special favors from the principal.
- 18. Teachers interrupt other faculty members who are talking in staff meetings.
- 22. Teachers ask nonsensical questions in faculty meetings.
- 26. Teachers ramble when they talk in faculty meetings.
- 30. Teachers at this school stay by themselves.
- 61. Teachers talk about leaving the school system.
- 38. Teachers socialize together in small select groups.

II - HINDRANCE

- 24. Routine duties interfere with the job of teaching.
- 20. Teachers have too many committee requirements.
- 16. Student progress reports require too much work.
- 12. Administrative paper work is burdensome at this school.
- 8. Sufficient time is given to prepare administrative reports.
- 4. Instructions for the operation of teaching aids are available.

III - ESPRIT

- 35. The morale of the teachers is high.
- 31. The teachers accomplish their work with great vim, vigor and pleasure.
- 27. Teachers at this school show much school spirit.
- 23. Custodial service is available when needed.
- 19. Most of the teachers here accept the faults of their colleagues.
- 15. School supplies are readily available for use in classwork.
- 21. There is considerable laughter when teachers gather informally.
- 11. In faculty meetings, there is the feeling of "let's get things done."
- 7. Extra books are available for classroom use.
- 3. Teachers spend time after school with students who have individual problems.

IV - INTIMACY

- 1. Teachers' closest friends are other faculty members at this school.
- 5. Teachers invite other faculty members to visit them at home.
- 9. Teachers know the family background of other faculty members.
- 13. Teachers talk about their personal life to other faculty members.
- 17. Teachers have fun socializing together during school time.
- 57. Teachers work together preparing administrative reports.
- 25. Teachers prepare administrative reports by themselves.

Table 12 (Cont.)

OCDQ ITEMS THAT COMPOSE FOUR SUBTESTS: PRINCIPAL'S BEHAVIOR

V - ALOOFNESS

- 58. Faculty meetings are organized according to a tight agenda.
- 59. Faculty meetings are mainly principal-report meetings.
- 55. The principal runs the faculty meeting like a business conference.
- 44. Teachers leave the grounds during the school day.
- 34. Teachers eat lunch by themselves in their own classrooms.
- 52. The rules set by the principal are never questioned.
- 40. Teachers are contacted by the principal each day.
- 54. School secretarial service is available for teachers' use.
- 64. Teachers are informed of the results of a supervisor's visit.

VI - PRODUCTION EMPHASIS

- 39. The principal makes all class scheduling decisions.
- 43. The principal schedules the work for the teachers.
- 62. The principal checks the subject matter ability of teachers.
- 47. The principal corrects teachers' mistakes.
- 66. The principal insures that teachers work to their full capacity.
- 51. Extra duty for teachers is posted conspicuously.
- 48. The principal talks a great deal.

VII - THRUST

- 28. The principal goes out of his way to help teachers.
- 32. The principal sets an example by working hard himself.
- 36. The principal uses constructive criticism.
- 41. The principal is well prepared when he speaks at school functions.
- 49. The principal explains his reasons for criticism to teachers.
- 53. The principal looks out for the personal welfare of teachers.
- 56. The principal is in the building before teachers arrive.
- 60. The principal tells teachers of new ideas he has run across.
- 63. The principal is easy to understand.

VIII - CONSIDERATION

- 29. The principal helps teachers solve personal problems.
- 33. The principal does personal favors for teachers.
- 37. The principal stays after school to help teachers finish their work.
- 42. The principal helps staff members settle minor differences.
- 46. Teachers help select which courses will be taught.
- 50. The principal tries to get better salaries for teachers.

Table 13

TOTAL SAMPLE MEANS AND STANDARD DEVIATIONS

	Mean	S. D.
Disengagement	65.9	4.36
Hindrance	69.9	5.83
Esprit	80.7	5.15
Intimacy	72.6	5.14
Aloofness	71.5	3.98
Production Emphasis	72.2	5.27
Thrust	81.8	6.14
Consideration	72.2	6.05

Standardization formula:

$$X_s = \frac{10}{\sigma_o} X_o - \left(\frac{10}{\sigma_o} M - 50 \right)$$

X_s = standard score

M = sample mean

σ_o = sample standard deviation

X_o = subtest raw score

Enter, in turn, the mean and the standard deviation for each subtest until all eight subtest scores have been converted to standard scores.

After completing this normative standardization, compute the mean and the standard deviation for each school's standardized subtest scores.¹³⁹

Then, using the same formula as is shown above, insert, in turn, the mean and the standard deviation for each school and solve the formula for each of the subtest scores. When these figures have been computed for

¹³⁹ The formula for a mean and standard deviation are readily available in any statistical text.

all eight subtest scores, the scores will have been standardized ipsatively, thus completing the normative and ipsative standardization procedures for securing the school profile-scores.

Table 14 lists the Climate profiles that we have identified in the present study. To determine which of the six Climate profiles is most similar to a given school's profile, simply compare the school-profile with each of the six prototypic profiles, in turn, and in each instance derive a profile similarity score. To do this, compute the absolute difference between the scores on each subtest and sum these differences for each of the six prototypic profiles. For example, if School A obtains the following profile, the similarity of this profile to the Open Climate profile is computed as follows:

Open Climate	43	43	63	50	42	43	61	55
School A	40	50	60	55	40	45	65	50
Difference	3	7	3	5	2	2	4	5

= 31

Thus, School A's similarity score in respect to the Open Climate is 31. After a profile similarity score has been computed for each prototypic profile, simply select the prototype with the smallest sum. This prototype will indicate which climate best characterizes the school.¹⁴⁰

¹⁴⁰The most effective way to classify the profile of a school is by factor analysis, but this procedure is laborious and usually needs to be done on a computer. Therefore, we have described the above method as a simple way for estimating which climate characterizes a given school.

Table 14

PROTOTYPIC PROFILES FOR SIX ORGANIZATIONAL CLIMATES RANKED
IN RESPECT TO OPENNESS VS. CLOSEDNESS

Climates	Group's Characteristics				Leader's Characteristics			
	Disengage- ment	Hindrance	Esprit	Intimacy	Alloofness	Production Emphasis	Thrust	Consideration
Open	43	43	63	50	42	43	61	55
Autonomous	40	41	55	62	61	39	53	50
Controlled	38	57	54	40	55	63	51	45
Familiar	60	42	50	58	44	37	52	59
Paternal	65	46	45	46	38	55	51	55
Closed	62	53	38	54	55	54	41	44

INTERCORRELATION MATRIX FOR 64 ITEMS

^aThe decimal points have been omitted.

Appendix D

UNROTATED ITEM FACTOR MATRIX FOR
64 ITEMS OF THE OCDQ, FORM IV
(N=1151)

	A*	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	h ²
Item No.	Disengagement																		
1.	-26#-40	08	-29	05	-07	-08	-06	-10	-04	-18	-12	05	01	22	00	03	-05	33	
2.	-19 -42	05	-25	-03	-14	-05	-13	-08	08	-13	02	17	20	-12	16	12	-03	31	
3.	-17 -43	08	-17	-17	-12	00	-18	-03	14	-18	03	07	09	09	15	04	-03	32	
4.	-15 -42	18	-14	06	-13	-01	-24	-06	-20	06	17	04	-05	01	-16	-02	10	33	
5.	-09 -39	33	-27	08	01	-29	15	-01	00	14	-21	00	-02	-07	-08	-11	12	46	
6.	-20 -39	19	-30	02	11	-09	17	-14	-01	21	-05	-15	-10	-11	11	12	-17	40	
7.	-23 -41	25	-27	06	11	-18	34	-07	-01	13	-17	-03	-12	-09	13	-07	03	52	
8.	-24 -28	-26	-15	01	-22	-01	-15	01	-17	05	-08	-11	-05	-07	07	00	-01	30	
9.	-37 -37	-01	08	-07	-09	09	06	03	-27	-01	13	-28	-08	-03	-08	07	-05	31	
10.	-22 -38	12	-20	-21	-12	13	09	02	17	-19	21	00	07	-19	07	-07	10	34	
Hindrance																			
11.	-22 -36	-06	30	47	02	00	08	-11	-04	-07	-08	-02	05	08	-01	-03	00	49	
12.	-13 -34	-05	30	38	04	-04	-05	-07	-18	00	-22	-04	19	-06	22	12	-10	38	
13.	-13 -34	-14	23	45	04	-05	-08	00	07	04	-06	02	03	-06	09	-05	05	42	
14.	-10 -34	-11	28	47	10	-01	10	-02	05	-12	15	08	-06	-05	-01	-07	08	46	
15.	35 08	06	-22	-37	-18	-01	-02	08	-05	14	-19	-05	-19	00	18	12	-14	35	
16.	52 -02	-17	03	-14	-15	-08	01	-14	-19	02	-11	04	-06	-04	07	07	-05	35	
Esprit																			
17.	66 18	16	00	08	-03	-21	-05	03	16	03	-05	03	13	-19	02	01	00	55	
18.	61 15	06	17	-02	01	-24	-13	01	08	04	02	-10	02	-07	08	03	02	50	
19.	64 13	16	13	08	08	-27	-15	00	11	13	-01	03	13	-10	11	-07	11	57	
20.	35 05	-13	08	-10	-11	-09	20	-07	-44	-02	09	19	-03	-24	-17	-04	09	22	
21.	37 09	10	20	05	-01	-17	19	07	-04	13	01	-16	-24	02	-18	12	-13	26	
22.	50 03	-08	-07	-06	-13	-35	05	-24	-16	-01	05	04	28	-03	05	04	-06	41	
23.	31 -05	47	20	06	-11	02	20	-01	06	-03	13	-11	16	03	-15	-04	-04	42	
24.	52 -11	-15	14	-02	-15	-04	-08	06	19	-05	-13	02	10	03	05	14	-20	35	
25.	41 04	-07	-01	-13	-04	-21	12	-28	-31	-13	10	04	24	-01	-12	10	-10	25	
26.	36 -09	04	17	-03	-13	-15	-17	-04	-08	27	-17	-28	02	11	06	-32	29	23	

*In order to save space we have designated the factors by letters instead of using the more conventional notation of Roman numerals.

#To save space, the decimals have been omitted.

UNROTATED ITEM FACTOR MATRIX FOR
64 ITEMS OF THE OCDQ, FORM IV CONTINUED
(N=1151)

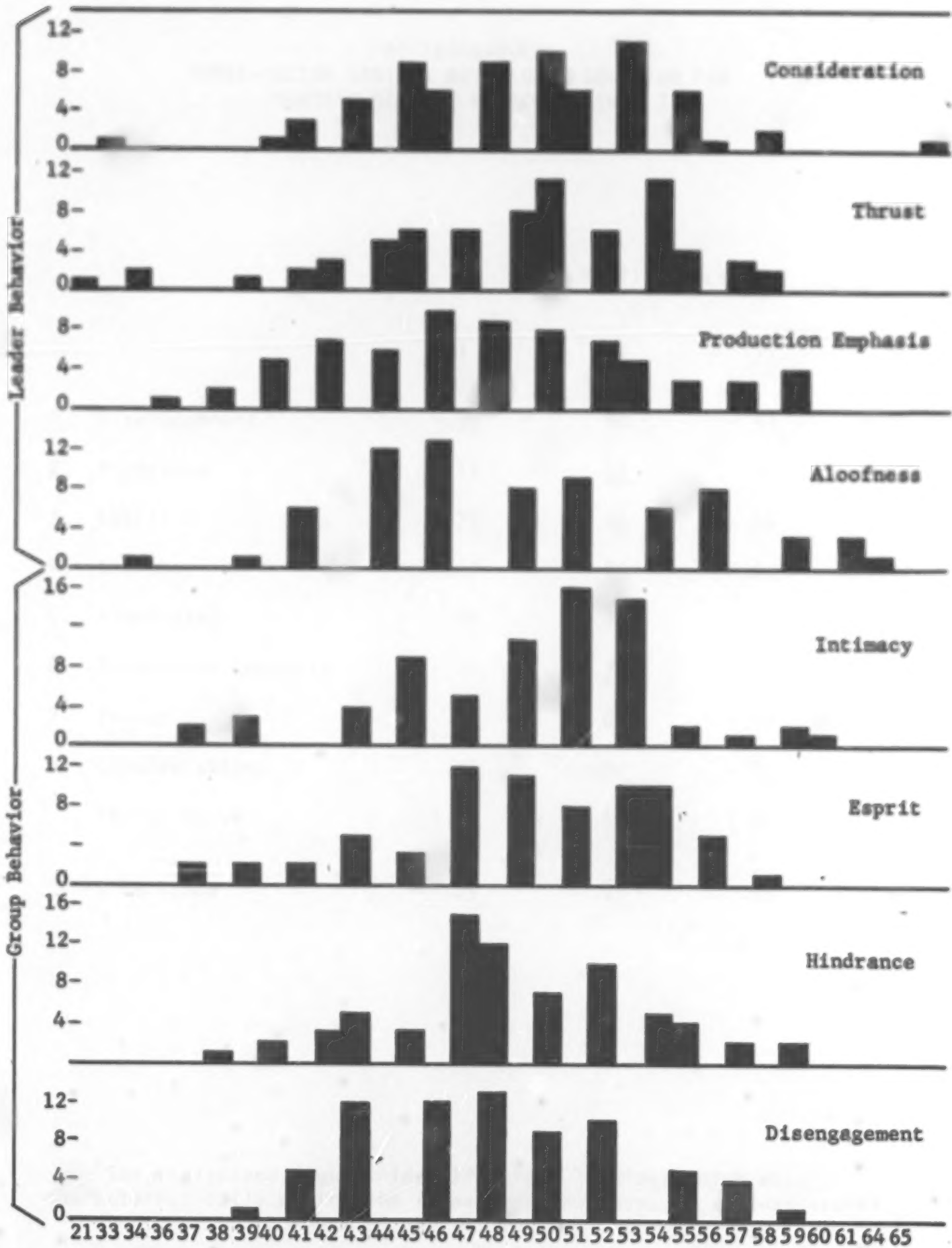
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	h ²
Intimacy																			
Item No.																			
27.	21	-11	35	31	-14	05	22	-13	-19	-02	-02	07	03	-03	-16	33	-05	09	36
28.	25	-08	41	33	-17	-03	24	-12	-10	-07	19	-09	-16	-05	-08	19	10	-06	45
29.	19	-06	38	32	-09	-09	00	-09	-18	-03	-11	-17	20	-25	11	00	-17	21	31
30.	10	-20	44	22	-16	-26	09	19	-16	08	-15	-03	-10	-17	04	-09	-05	00	42
31.	17	-14	44	14	-01	-15	02	16	13	08	-16	34	-06	22	12	01	12	-17	31
32.	31	-21	16	14	-11	31	-03	-14	20	09	-22	-29	-02	06	-23	-18	16	-21	31
33.	-06	-01	-21	06	11	-27	-26	01	-19	16	30	31	00	-25	33	10	17	-14	21
Aloofness																			
34.	04	-30	-32	21	-08	-16	-13	-09	-15	08	-23	04	-03	-34	-22	-17	01	-07	30
35.	-28	-22	-16	19	-22	-23	-20	06	14	17	08	11	03	04	-24	-05	-09	04	33
36.	14	-24	-39	17	-13	-14	00	-16	-22	28	-07	-09	12	-22	-11	-08	-05	04	32
37.	-07	-19	06	03	-07	-47	07	-03	36	-11	-09	04	-01	07	00	15	-20	19	28
38.	-07	-13	-18	-05	16	-34	-09	-36	16	-11	-01	-06	-42	10	-02	-07	04	-05	34
39.	00	-22	05	-03	-01	-20	-07	14	00	03	09	-40	24	25	13	-32	08	-11	12
40.	40	-13	-04	04	-03	-18	-03	-09	35	-09	17	01	31	-02	14	06	05	-03	23
41.	29	-06	-07	-16	-13	28	-31	-08	-22	-05	-18	21	-16	-02	16	17	-02	-07	32
42.	36	-19	-12	02	-15	25	03	07	15	-09	-27	-13	-12	02	13	06	-12	16	27
Production Emphasis																			
43.	-12	-32	-23	14	-31	12	24	08	-34	-01	20	-04	-21	19	-01	-14	03	00	36
44.	-07	-27	-21	27	-23	17	23	-04	-22	02	10	01	18	16	23	00	27	-28	33
45.	33	-37	-25	02	-26	17	-04	-01	16	10	07	12	-07	14	03	06	-16	18	40
46.	14	-42	-19	19	-21	13	03	23	27	-04	16	02	-18	08	12	-08	-02	07	38
47.	34	-31	-24	06	-13	17	-06	-04	03	20	14	06	14	09	-02	-04	-24	17	32
48.	23	-12	-13	17	-13	-05	-16	23	12	-08	-30	-14	01	-08	40	07	-11	17	21
49.	-17	-39	14	11	-08	14	-18	20	16	06	19	15	28	-11	-08	09	-03	06	31
Thrust																			
50.	66	-08	-01	-24	17	-07	31	-01	-07	-05	05	00	07	02	-01	-01	-09	07	63
51.	61	-11	-18	-13	14	-02	22	18	03	-12	03	04	04	-13	-11	02	-16	11	54
52.	67	-04	-11	-14	20	-10	17	13	01	14	-02	00	-05	-08	00	02	13	-11	58
53.	50	-04	-21	-16	06	-13	24	08	-19	07	-01	-06	-02	07	10	-02	-28	20	40
54.	63	-11	-07	-09	13	04	12	20	10	03	-02	03	-15	-06	03	06	11	-04	50
55.	45	-09	-07	-07	09	-18	02	24	06	28	-10	-12	-09	-08	03	13	35	-27	32
56.	39	-12	-19	03	02	-03	15	07	15	-28	-02	06	15	-08	-24	06	22	-26	23
57.	57	-19	-10	-11	13	10	-02	09	-07	-02	04	19	03	03	-03	04	-04	09	42
58.	57	05	02	-18	19	-16	22	03	-14	08	-01	01	-02	09	00	01	-14	13	47

UNROTATED ITEM FACTOR MATRIX FOR
64 ITEMS OF THE OCDQ, FORM IV CONTINUED
(N=1151)

	A*	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	h ²
Item No.	Consideration																		
59.	34	-27	22	-10	04	18	06	-28	09	-03	13	08	11	-13	20	-23	07	-12	36
60.	40	-27	32	-08	08	-04	12	-26	-06	-13	17	06	15	-03	13	-13	-01	-03	43
61.	36	-30	-01	-08	01	31	-03	-18	19	-23	-13	-02	05	-17	07	20	07	-13	35
62.	33	-29	03	-08	02	09	04	-19	13	15	10	19	-14	03	-05	-26	15	-09	25
63.	26	-02	20	01	08	03	-17	-16	-05	-07	-30	15	-07	-07	02	-16	02	02	17
64.	41	-13	04	-29	-04	14	-03	-07	-14	16	-09	-09	-08	-16	-06	-18	-07	13	29
Eigen-values	8.2	3.8	2.6	2.1	1.8	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.0	
% variance	24	11	07	06	05	05	05	04	04	04	04	04	03	03	03	03	03	03	Σ=100%

Appendix E

SCHOOL-MEAN STANDARD^a SCORES (N=71)



^a Mean = 50; Standard Deviation = 10.

Appendix F

"R" TECHNIQUE
THREE-FACTOR VARIMAX ROTATIONAL SOLUTION FOR
SUBTEST SCORES, BY SCHOOL (N = 71)

	Profile Factors			
	I	II	III	h ²
1. Disengagement	<u>-.86</u>	.00	-.33	.85
2. Hindrance	-.13	<u>.50</u>	.34	.38
3. Esprit	<u>.79</u>	-.28	-.04	.71
4. Intimacy	-.07	<u>-.85</u>	.22	.77
5. Aloofness	.08	-.09	<u>.80</u>	.66
6. Production Emphasis	-.16	<u>.76</u>	.02	.61
7. Thrust	<u>.64</u>	.08	-.47	.64
8. Consideration	.02	-.07	<u>-.85</u>	.73
Factor Value	1.83	1.65	1.86	
% Variance	.23	.21	.23	$\Sigma = 67\%$

^aThe italicized figures identify those loadings which most characteristically define the three major patterns of subtest scores.

Appendix G

THE DISTRIBUTION OF THE ORGANIZATIONAL CLIMATES OF THE 71 SCHOOLS

State	Open	Autonomous	Controlled	Familiar	Paternal	Closed	Total
1. California	2	0	0	0	2	0	4
2. Illinois	3	0	1	0	1	2	7
3. New York	2	0	2	1	2	3	10
4. Tennessee	1	0	0	2	6	1	10
5. Utah	8	1	9	3	1	8	30
6. Wisconsin	1	8	0	0	0	1	10
TOTAL	17	9	12	6	12	15	71

In this table we have classified the 71 schools, by state, in respect to their Organizational Climate. Obviously, we cannot make any firm inference about the Climates of the schools in the six states from which we have drawn our sample; the total sample, itself, is too meager. However, it is interesting to note that 80% of the schools in the Wisconsin sample are characterized by an Autonomous Climate, while 60% of the schools in the Tennessee sample are characterized by a Paternal Climate. These findings need to be checked on a larger, and random sample of schools from both these states.

The data in this table must be interpreted with extreme caution. We must remember that the sample of schools which we have used in the present study is a fortuitous sample; consequently, there is no way--on the basis of the statistics we now have in hand--by which we can estimate the relevant parameters.

There is a further reason why we must be chary about interpreting the distribution of scores across the six Climates: we do not know the actual mid-point of the OCDQ subtest scores for a definable population of schools. By converting the raw scores to standard scores we have arbitrarily specified the mid-point (i.e., the standard score of 50) for the fortuitous sample with which we have worked; moreover, this conversion to standard scores enforces upon the distribution its present form. Until the OCDQ has been administered to a sample of schools drawn at random from a clearly specified population of schools, we must be content to maintain an extremely cautious attitude toward whatever interpretations we venture to make.